



Study Guide

PCIC³B2 GS3- Key Applications-Excel

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Introduction

Welcome to Teknimedia's *PCIC³B2 GS3–Key Applications-Excel (PCIC²B2 GS3) Study Guide*! This guide has been developed to help you complete *PCIC³B* and prepare for the Internet and Computing Core Certification (IC³) Key Applications exam.

Following is an overview of the materials included in this guide:

1. Learning Objectives

This section of the guide provides you with a list of learning objectives covered by *PCIC²B2 GS3*.

2. Course Table of Contents

This section provides you with a list of all the lessons, interactive exercises and quizzes provided in *PCIC²B2 GS3*.

3. Curriculum Mapping

This section maps the sections of *PCIC³B2 GS3* to IC³ GS3-Key Applications as well as the exam objectives of IC³ GS3-Key Applications to the sections of *PCIC³B2 GS3*.

4. Lessons and Reading Supplements

This section provides you with the full text of all course lessons -- plus the text of the sections used to introduce and conclude the course. *Lessons and Reading Supplements* also provides you with the full text of all reading supplements included in the course.

PCIC³B2 GS3 - Learning Objectives

PCIC³B2 GS3 covers the knowledge and skills pertaining to the objectives for the spreadsheet component of the IC3 Key Applications.

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Curriculum Mapping: PCIC³B2 GS3 to IC³B GS3

PCIC ³ B2 GS3 Section #	Section Name	IC ³ B GS3 Reference #
B	Introduction	none
B1	Unit 1	none
B1.1	Spreadsheets Overview	none
B1.2	Getting Started	IC ³ -2 1.1.1 IC ³ -2 1.2.1 IC ³ -2 3.1.4
B1.3	Ribbon	IC ³ -2 1.1.2
B1.4	Entering Data	IC ³ -2 1.3.2 IC ³ -2 3.1.1 IC ³ -2 3.1.3
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B1.16	Ex-Creating a New Workbook	IC ³ -2 1.2.1 IC ³ -2 1.2.5
B1.17	Opening Workbooks	IC ³ -2 1.1.1 IC ³ -2 1.2.2
B1.18	Ex-Opening Workbooks	IC ³ -2 1.2.2
B1.19	Quiz 1-1	
B1.20	Fonts	IC ³ -2 1.3.2 IC ³ -2 1.3.6
B1.21	Ex-Fonts	IC ³ -2 1.3.2 IC ³ -2 1.3.6

PCIC3B2 GS3 Section #	Section Name	IC³B GS3 Reference #
B1.22	Alignment	IC ³ -2 1.3.6 IC ³ -2 3.1.7
B1.23	Ex-Alignment	IC ³ -2 1.3.6 IC ³ -2 3.1.7
B1.24	Number Formats	IC ³ -2 3.1.5
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B1.28	Resizing Rows and Columns	IC ³ -2 3.1.4
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B1.30	Printing	IC ³ -2 1.1.8 IC ³ -2 1.4.2 IC ³ -2 1.4.3
B1.31	Ex-Printing-1	IC ³ -2 1.4.2
B1.32	Ex-Printing-2	IC ³ -2 1.4.3
B1.33	Office Clipboard	IC ³ -2 1.3.2
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B2.23	Copying Formulas and Functions	IC ³ -2 3.2.3 IC ³ -2 3.2.4
B2.24	Ex-Copying Formulas and Functions	IC ³ -2 3.2.3 IC ³ -2 3.2.4
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B2.26	Ex-Formula and Function Errors	IC ³ -2 3.2.8
B2.27	Organizing Worksheets	IC ³ -2 3.1.4
B2.28	Ex-Organizing Worksheets	IC ³ -2 3.1.4
B2.29	Templates	IC ³ -2 1.2.1 IC ³ -2 1.2.4
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B2.32	Ex-Time Saving Tips	none
B2.33	RS-Save Formats	IC ³ -2 1.2.4
B2.34	Ex-Save Formats	IC ³ -2 1.2.4
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B3.8	Ex-Cell Shading	IC ³ -2 3.1.6
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B3.24	Ex-Hiding Rows and Columns	none
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B3.30	Ex-Print Area	IC ³ -2 3.2.9
B3.31	Print Scaling	IC ³ -2 3.2.9
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B3.37	Modifying Charts-1	IC ³ -2 3.2.9
B3.38	Ex-Modifying Charts-1	IC ³ -2 3.2.9
B3.39	Modifying Charts-2	IC ³ -2 3.2.9
B3.40	Ex-Modifying Charts-2	IC ³ -2 3.2.9
B3.41	Interpreting Data and Charts	IC ³ -2 3.2.10
B3.42	RS-Guidelines for Creating Spreadsheets	IC ³ -2 3.1.2
B3.43	Quiz 3-2	
B3.44	Unit 3 End	none

Curriculum Mapping: IC³ GS3 to PCIC³B2 GS3

IC ³ B GS3 Reference #	PCIC ³ B2 GS3 Section #	Section Name
IC ³ -2 1.1.1	B1.2 B1.17	Getting Started Opening Workbooks
IC ³ -2 1.1.2	B1.2 B1.3 B1.4	Getting Started Ribbon Entering Data
IC ³ -2 1.1.3		Covered in PCIC ³ B1 GS3 and PCIC ³ B3 GS3
IC ³ -2 1.1.4	B1.3	Ribbon
IC ³ -2 1.1.5		Covered in PCIC ³ B1 GS3 and PCIC ³ B3 GS3
IC ³ -2 1.1.6		Covered in PCIC ³ B3 GS3
IC ³ -2 1.1.7		Covered in PCIC ³ B1 GS3
IC ³ -2 1.1.8	B1.35 B1.30	Getting Help Printing
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IC ³ -2 1.3.3		Covered in PCIC ³ B1 GS3
IC ³ -2 1.3.4	B2.12 B2.13	Find & Replace Ex-Find & Replace
IC ³ -2 1.3.5	B2.10 B2.11	Spelling Check Ex-Spelling Check
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IC ³ -2 1.4.1	B1.33	Covered in PCIC ³ B1 GS3
IC ³ -2 1.4.2	B1.30 B1.31	Printing Ex-Printing-1
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IC ³ -2 1.4.4		Covered in PCIC ³ B1 GS3
IC ³ -2 1.4.5		Covered in PCIC ³ B1 GS3
IC ³ -2 1.4.6		Covered in PCIC ³ B1 GS3
IC ³ -2 1.4.7		Covered in PCIC ³ B1 GS3
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IC ³ -2 3.1.2	B3.42	RS-Guidelines for Creating Spreadsheets
IC ³ -2 3.1.3	B1.4 B1.5 B1.6 B1.7 B2.1 B2.2	Entering Data Ex-Entering Data Editing Data Ex-Editing Data Filling Cells Ex-Filling Cells
IC ³ -2 3.1.4	B2.5 B2.6 B2.7 B2.8 B2.27 B2.28 B1.28 B1.29 B3.1 B3.2	Inserting & Deleting Cells Ex-Inserting & Deleting Cells Inserting & Deleting Rows & Columns Ex-Inserting & Deleting Rows & Columns Organizing Worksheets Ex-Organizing Worksheets Resizing Rows & Columns Ex-Resizing Rows & Columns Wrapping Text in a Cell Ex-Wrapping Text in a Cell

IC³B GS3 Reference #	PCIC³B2 GS3 Section #	Section Name
IC ³ -2 3.1.5	B1.24 B1.25	Number Formats Ex-Number Formats
IC ³ -2 3.1.6	B3.5 B3.6 B3.7 B3.8	Cell Borders Ex-Cell Borders Cell Shading Ex-Cell Shading
IC ³ -2 3.1.7	B1.22 B1.23	Alignment Ex-Alignment
IC ³ -2 3.1.8	B3.9 B3.10	Styles Ex-Styles
IC ³ -2 3.1.9	B3.19 B3.20 B3.29 B3.30 B3.31 B3.32 B3.33 B3.34 B3.21 B3.22	Page Breaks Ex-Page Breaks Print Area Ex-Print Area Print Scaling Ex-Print Scaling Printing Titles & Gridlines Ex-Printing Titles & Gridlines Header & Footer Ex-Header & Footer
IC ³ -2 3.1.10	B3.42	RS-Guidelines for Creating Spreadsheets
IC ³ -2 3.2.1	B3.25 B3.26	Sorting Data Ex-Sorting Data
IC ³ -2 3.2.2	B3.27 B3.28	Filtering Data Ex-Filtering Data
IC ³ -2 3.2.3	B2.23 B2.24	Copying Formulas & Functions Ex-Copying Formulas & Functions
IC ³ -2 3.2.4	B2.15 B2.16 B2.19 B2.20 B2.23 B2.24	Formulas Containing Multiple Operators Ex-Formulas Containing Multiple Operators Inserting Functions in Formulas Ex-Inserting Functions in Formulas Copying Formulas & Functions Ex-Copying Formulas & Functions
IC ³ -2 3.2.5	B1.10 B1.11 B2.17 B2.18	Functions Ex-Functions Commonly Used Functions Ex-Commonly Used Functions
IC ³ -2 3.2.6	B1.10 B1.11	Functions Ex-Functions
IC ³ -2 3.2.7	B1.8 B1.9 B1.10 B1.11	Formulas Ex-Formulas Functions Ex-Functions

IC³B GS3 Reference #	PCIC³B2 GS3 Section #	Section Name
IC ³ -2 3.2.8	B2.25 B2.26 B2.15 B2.16	Formula and Function Errors Ex-Formula and Function Errors Formulas Containing Multiple Operators Ex-Formulas Containing Multiple Operators
IC ³ -2 3.2.9	B3.35 B3.36 B3.37 B3.38 B3.39 B3.40	Creating Charts Ex-Creating Charts Modifying Charts-1 Ex-Modifying Charts-1 Modifying Charts-2 Ex-Modifying Charts-2
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PCIC³B2 GS3 - Lessons

Unit 1

B Introduction

The course you're about to take will teach you spreadsheet skills using Microsoft Excel 2007 to help you prepare for the IC3-GS3 Key Applications certification exam.

The course is designed for Intermediate level computer users. Its prerequisite is "PCIC3A-Computing Fundamentals," or equivalent knowledge and skills.

Excel 2007 can be used on Windows 7, Windows Vista and Windows XP. This course is based on Excel 2007 running on Windows Vista. However, the skills that you learn in the course will also be applicable to Excel 2007 running on Windows 7 and Windows XP.

B1 Unit 1

In this course you'll learn how to:

- use the Excel 2007 Ribbon
- enter data
- edit data
- enter formulas
- insert functions
- save workbooks
- create new workbooks
- open workbooks
- apply fonts
- align data
- set number formats
- use the Format Painter
- resize rows and columns
- print workbooks
- use the clipboard
- and get help

NOTES:

B1.1 Spreadsheets Overview

The Spreadsheets program is a powerful and flexible application that lets you work with data in many useful ways. You can use spreadsheets to:

- organize a set of data
- perform calculations on the data
- and format the data to make it look more attractive and easier to read

One of the most important features of the Spreadsheets program is that it keeps the relationship of its data elements. For example, this number is a part of these calculations. As a result, if you change the number, the result of the calculations will be automatically updated.

The capabilities of the Spreadsheets program make it very suitable for a variety of business and personal applications such as creating budgets, tracking stock transactions, and generating sales reports.

This course will teach you how to work with spreadsheets, using Microsoft Excel 2007, the world's most popular spreadsheet program.

B1.2 Getting Started

In this course, I'll teach you the basics of spreadsheets, using Microsoft Excel 2007. The concepts and skills that you'll learn in the course will also apply to the previous versions of Excel, including Excel 2003, 2002, and 2000.

You can start Excel from the Start button's "All Programs" menu. Excel 2007 is usually located in the Microsoft Office folder, so open the folder, and select Microsoft Office Excel 2007. Excel's window will appear.

The window contains an area made up of cells where you can enter data. This area is referred to as a Spreadsheet, or a Worksheet. Excel contains multiple worksheets, collectively referred to, as a Workbook.

NOTES:

The Excel window also contains the following elements:

- The "Office" button contains functions for managing spreadsheets.
- The "Quick Access Toolbar" provides quick access to frequently used functions.
- The Title bar displays the workbook's name.
- The Minimize button hides the window without closing it.
- The Maximize button expands the window to its maximum size.
- The Close button closes the window and the workbook in it.
- The "Ribbon" organizes all Excel functions in a way that makes them easy to find and use.
- the "Formula Bar" displays the name and contents of the cells in the worksheet;
- the "Scroll Bars" let you move around in a worksheet
- the "Status Bar" displays information about the functions you perform
- "View" buttons let you change the way the spreadsheet is displayed on the screen.
- and the "Zoom" controls let you specify how large the spreadsheet appears on the screen.

B1.3 Ribbon

The Excel 2007 window includes a "Ribbon" that organizes all Excel functions in a way that makes them easy to find and use. The "Ribbon" replaces the menus and toolbars in previous versions of Excel.

The "Ribbon" contains tabs across its top corresponding to different categories of functions. The default tab is "Home." The "Home" tab contains the most commonly used functions for editing and formatting the data in a worksheet.

The functions in a tab are divided into groups. Each group contains functions related to a particular set of tasks. For example, the "Clipboard" group contains functions for copying data, the "Font" group contains functions for changing the appearance of data, and the "Alignment" group contains functions for changing the alignment, position and direction of the data in a cell.

Some groups contain a small icon on their lower right, referred to as the "Dialog Box Launcher." Clicking on a dialog box launcher will open a dialog box containing more functions related to its group.

You can display the functions in another tab, for example this one, by simply clicking on it. The tab's functions will be displayed.

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Depending on the size of the Excel window, a tab might not have enough space to display all the functions in its groups. In such a case, some groups will appear as a single button. If you click on a group's button, for example this one, its functions will be displayed.

You can easily hide the Ribbon's functions to make the worksheet area larger. Simply double click on the active tab. The function groups will disappear, and the worksheet area will become larger. To display the Ribbon's functions again, simply double click on the desired tab, for example this one. The tab's functions will be displayed.

You'll be using the Ribbon frequently when working on a spreadsheet. I'll explain how to use various Ribbon functions where applicable throughout the course.

B1.4 Entering Data

In this lesson, I'll teach you how to enter data into a worksheet.

A worksheet is made up of rows, marked by numbers, and columns marked by letters. The area where a row and column cross is referred to as a cell. Each cell is identified by a "cell reference," consisting of the cell's column letter, followed by its row number. For example, this cell's reference is F7, and this cell's reference is D8.

The worksheet contains, an active cell, which is marked by a thick border. You can enter data only in the active cell. You can activate any cell in the worksheet, for example this one, by simply clicking on it. When you place the mouse pointer over a cell, the pointer changes to a cross. You can then click on the cell to activate it. The active cell's reference is shown in the text box on the left of the Formula bar. Only one of the cells in the worksheet can be active at any time.

Now, let's enter some data in this worksheet. First, let's reactivate cell A1, and type in a title for the worksheet in that cell, for example this title. The data that you type in a cell will also appear in the formula bar. Once you've typed in the desired data, press the Enter key. The data will be entered in the cell, and the next cell in the same column will be automatically activated.

Let's type in another title in this cell, for example this title. If the text is too long to fit in the cell, simply continue typing. The text will automatically spill into the next cell. Again, once you've entered the desired data, press the Enter key.

NOTES:

The text that spills into another cell only belongs to the cell where it was originally entered. As a result, if you activate the cell that the text spilled into, nothing will be displayed in the Formula Bar. However, if you select the original cell, the whole text will appear in the Formula Bar.

Now let's activate this cell, and enter a heading in it, for example this one. Then enter the appropriate data under the heading.

If you type in an incorrect character, for example this one, simply press the Backspace key to delete the last character you typed. Then, enter the correct character and continue typing.

Now let's enter another heading, in this cell, and then enter some numbers under it.

The numbers that you enter are automatically aligned to the right.

Now let's quickly enter the rest of this spreadsheet's data.

B1.6 Editing Data

In this lesson, I'll teach you various ways to edit the data that has been entered into a worksheet. I'll show you how to:

- modify
- delete
- move
- and copy data

Modifying Data

You can easily modify the data in any of the worksheet's cells. For example, let's change the text in this cell. To modify a cell's data, first select the cell. The cell's contents will appear in the Formula bar. You can then make the desired changes to the data in the Formula bar. For example, you can add a word at the beginning of this text, by first placing the insertion point at the appropriate position, and then typing the desired word. After you're done, press the Enter key. The change you made will be entered in the cell.

Now, let's modify the number in this cell. Again, first select the cell. Then change its contents in the Formula bar. The Formula bar contains an "Enter" button that works like the Enter key. You can click on this button instead of pressing the Enter key to enter your change. The new data will be entered in the cell.

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Now let's modify the contents of another cell, for example this one. Sometimes after you've modified a cell's data, you may not like the changes you made and would like to restore the original data. The Formula bar contains a "Cancel" button that lets you cancel the changes you made. Simply click on this button. Your change will be cancelled and the cell's original data will be restored.

Now, let's modify this cell's contents. You can also enter your change directly in the cell itself, without using the Formula bar. Simply double-click on the cell. The insertion point will appear in the cell indicating that it can be edited. You can then modify the cell's contents as desired. Once you've made your change, click on the "Enter" button. The change you made will be entered in the cell.

Deleting Data

You can easily delete the data in any of the worksheet's cells. For example, let's delete this cell's data. To delete a cell's data, first select the cell, and then simply press the Delete key. The cell's contents will be deleted.

Moving Data

You can easily move data from one cell to another. For example, let's move this cell's data, to this cell. To move a cell's data, first select the cell. Then click on the "Cut" button in the "Clipboard" group, of the "Home" tab. A dashed line will appear around the cell, indicating its data is ready to be moved. Now, select the cell where you want to move the data, and then click on the "Paste" button in the "Clipboard" group. The data will be moved to that cell.

Copying Data

You can easily copy a cell's data into another cell. For example, let's copy this cell's data, into this cell. Again, first select the cell containing the desired data. Then, click on the "Copy" button in the "Clipboard" group. Now, select the cell where you want to copy the data, and click on the "Paste" button. The data will be copied into the specified cell.

When you copy data into a cell, the "Paste Options" button will appear on the cell's lower right. This button lets you change the data's appearance. Simply ignore the button to leave the data's appearance unchanged. Once you've copied the data, press the Enter key. The data will be entered in the cell.

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B1.8 Formulas

Excel provides a powerful feature, referred to as Formula that lets you perform calculations on the worksheet's data.

Let's use formulas to perform some basic calculations on this worksheet's data. For example, let's calculate the sum of these numbers. To perform a calculation, you must first activate the cell where you want the calculation's result to appear. Let's make the result appear in this cell. Then, you must enter the appropriate formula for the calculation in the cell.

The formula for the sum of these numbers would simply be the first number, plus the second number, plus the third number. Before entering a formula, you must first type in an Equal sign in the cell. The Equal sign indicates that the cell will contain a formula, not regular data. After the Equal sign, type in the formula, and then press the Enter key. The formula's result will appear in the cell.

Let's enter a label in this cell to indicate what this calculation result represents.

Now, let's enter another formula to calculate the sum of these numbers. Again, first activate the cell where you want the result to appear, for example this cell, and then enter the appropriate formula in it. Instead of using the actual numbers in the formula, you can simply use the cell references of the cells containing the numbers. Excel will automatically use the numbers in the referenced cells to perform the calculation. As before, first enter an Equal sign in the result cell. Then enter the formula. After you type in the first cell reference's letter, a list of functions, starting with that letter will be displayed. Functions are preset formulas that you can use to perform a variety of calculations. They'll be discussed later in the "Functions" lesson. Simply ignore the list and continue typing. When you type in the cell reference, it will appear in color, and a border of the same color will appear around its corresponding cell. Simply continue typing the rest of the formula, and then press the Enter key. The result will appear in the cell.

A formula that uses cell references provides an important benefit, over one that uses actual numbers. If you modify the contents of a cell included in a formula that uses cell references, for example this cell, the calculation's result will be automatically updated. However, if you change the contents of a cell, included in a formula that uses actual numbers, for example this cell, the number entered in the formula won't change. Therefore, the formula's result will remain the same as before, not reflecting the change that you made to the cell. For this reason, you should use cell references instead of actual numbers in a formula.

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Let's modify the formula in this cell to use cell references instead of actual numbers. To modify a formula, first select its cell. The formula will appear in the formula bar. Then, simply make the desired changes to the formula. Let's replace these numbers with their corresponding cell references. Once you've made your changes, simply click on the Enter button. The formula's result will be displayed.

Besides addition, you can also perform other calculations such as subtraction, multiplication, and division using their appropriate arithmetic operators.

Let's use subtraction to calculate the difference between these two numbers. As before, first activate the cell where you want the calculation's result to appear, for example this cell. Then enter the appropriate formula in it. As mentioned earlier, you should use the cell references, corresponding to the actual numbers. Again, enter the formula in the result cell, starting with the Equal sign. Instead of typing in a cell's reference, you can simply click on the cell. The cell's reference will be automatically entered in the formula. Then type in the next part of the formula, and again click on the appropriate cell. The cell's reference will be added to the formula. Once the formula has been completed, press the Enter key. The result will be displayed.

Let's enter a label in this cell to indicate what this calculation result represents.

B1.10 Functions

Excel provides a useful feature, referred to as Function that lets you quickly perform common calculations, such as sums and averages, without having to enter formulas.

Let's use a function to calculate the sum of these numbers. You can easily enter the sum of the numbers in the cell immediately below them, by first activating the cell. Then click on the left part of the "AutoSum" button in the "Editing" group, of the "Home" tab. The Sum function will appear in the cell. A description of the function's format is displayed below it. By default, the consecutive group of cells containing numbers, located above the function, is included in it. The cell references of the first and last cell in the group separated by a colon are displayed inside the function, indicating this cell range will be included in the sum. Simply click on the "Enter" button. The sum will appear in the cell.

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Now let's use the Sum function, to calculate the sum of these numbers. You can enter the sum in any cell you want, for example this cell, by first activating it. Then click on the "AutoSum" button. Again, the Sum function will appear in the cell, and the group of cells above it, will be automatically included in it. You can replace these cells with the cells that you want to include in the sum by simply dragging over them. The cells will be included in the sum. Then, click on the "Enter" button. The result will be displayed.

Let's enter a label in this cell to indicate what this calculation result represents.

Now, let's use a function to calculate the average of these numbers. Again, first activate the cell where you want the result to appear, for example this cell. Then, click on the down arrow on the right of the AutoSum button. A menu containing the list of standard functions will be displayed. Select Average from the list. The "Average" function will appear in the result cell, with the cells above it, included in it. As before, replace these cells with those you want to include in the average by simply dragging over them. The cells will be included in the function. Then click on the Enter button. The result will be displayed.

Let's enter a label in this cell to indicate what this calculation result represents.

In addition to the Sum and Average functions, Excel provides many other useful functions. The Frequently Asked Questions of this section provides information on some of the other commonly used functions.

B1.12 Saving Workbooks

You must save your workbook as a file, to prevent its contents from being lost, when you exit Excel, or turn off the computer.

Let's save the workbook that we created earlier. To save a workbook, click on the "Save" button in the "Quick Access" toolbar. If you're saving a workbook for the first time, the "Save As" dialog box will appear. The dialog box contains an address bar that lets you select a location for saving the workbook. The default saving location is the current user's "Documents" folder. Let's save the workbook in this location.

Before saving the workbook, enter a name for it in the text box labeled "File name." By default, Excel sets a new workbook's file name to the word "Book" followed by a number, but you can give the workbook any file name you like. You should give workbooks unique file names so you can easily identify them later. For example, let's give the workbook, this name.

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The "Save as" dialog box also contains a drop down list labeled "Save as type" that lets you select a file type for the workbook you're saving. The default type for files created in Excel 2007 is "Excel Workbook" with the extension dot-xlsx. Let's leave the "Save as type" unchanged so the file is saved with this type. Once you've specified the desired save parameters, click on the "Save" button. The workbook will be saved in a file as specified.

Now let's make a change to the workbook, for example modify this number. The changes in the workbook won't be reflected in the file until you save the workbook again. To save the changes, simply click on the "Save" button. The workbook's new contents will be saved in the file.

Now, let's make a change to the workbook, for example, change this number. Sometimes, after you modify a workbook, you may want to save it as a new file without replacing the original file.

To save a workbook as a new file, first click on the "Office" button, and then move the mouse pointer over "Save As." A list of different file formats for saving a copy of the worksheet will be displayed. Let's select the default format, "Excel Workbook." The "Save As" dialog box will open with the location, File name, and Save as type set to those of the original file.

You don't always have to save the file in the current Save-in location; you can save it anywhere you want. For example, let's save the file in the Business folder, inside the Temp folder, on the C drive. To set the Save-in location to a particular folder, you must first select the drive where it resides, and then go down the path to that folder. The "Favorite Links" on the left of the dialog box displays the list of commonly used locations. Click on "Computer" to display the computer's contents. Then open the C drive by simply double clicking on it. The drive's contents, including the "Temp" folder will appear. Now, open the "Temp" folder. The folder's contents, including the "Business" folder will be displayed. Then, open the "Business" folder. The Save-in location will be set to this folder.

Before saving the file, change its name so it can be distinguished from the original file. Let's change the file's name to this name. Also, let's change its file type, to this type, so it can be opened by previous versions of Excel. Simply open the "Save as type" drop-down list, and select the desired file type. Now, click on "Save." The workbook will be saved in a new file as specified, and the original file will remain untouched.

Once you've saved the workbook, you can close it by clicking on the workbook's "Close" button, located below the Program window's close button.

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B1.15 Creating New Workbooks

You can create a new workbook inside Excel, by first clicking on the "Office" button. Then select "New." The "New Workbook" dialog box will open. The dialog box provides a list of templates that you can use to create a new workbook. By default, the "Blank and recent" group of templates is selected, with "Blank Workbook" selected by default. Simply click on the "Create" button. A blank workbook will be created. You can then enter the desired data in the workbook.

Now, let's save the workbook by clicking on the "Save" button on the "Quick Access toolbar." Since this is a new workbook, the "Save As" dialog box will open to let you specify a name and location for saving the file. Let's enter a file name for the workbook, and save it in the default location, by simply clicking on "Save." Once the workbook has been saved, you can close it.

B1.17 Opening Workbooks

You can open a previously saved workbook, by first clicking on the "Office" button. A list of the workbooks that you have recently worked on will be shown under "Recent Documents." You can open one of these workbooks, for example this one, by simply selecting it from the list. The workbook will open.

Now let's open another workbook. Again, first click on the "Office" button. If you want to open a workbook that's not included in the "Recent Documents" list, click on "Open." The "Open" dialog box will appear to let you locate the desired workbook. The default location is the current user's "Documents" folder. The folder's contents are displayed in the dialog box's main pane.

Let's open a workbook in a different location. For example, let's open this workbook, located in this folder, inside the "Temp" folder, on the C drive. First, click on "Computer" under "Favorite Links" to display the computer's contents. The computer's disk drives including the C drive will be displayed. Double-click on the C drive to open it. The drive's contents, including the "Temp" folder, will appear. Now, open the "Temp" folder. Its contents, including the "Business" folder will appear. Then, open the "Business" folder. The folder's contents will appear. Here is the file that was saved in this location. You can open the file by simply double clicking on it. The workbook will be displayed. Now, let's exit Excel so I can show you another way to open a workbook.

For example, let's open this workbook, stored in the "Documents" folder. You can also open a workbook using its icon without first starting Excel. To locate this workbook's icon, you can simply click on the "Start" button, and select "Documents." The Windows Explorer window will

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open, displaying the contents of the Documents folder. Here's the icon of the workbook we want to open. You can simply double-click on the icon to open the workbook. Excel will automatically start and open the workbook.

B1.20 Fonts

In this lesson, I'll teach you how to use fonts to make your worksheet look more attractive.

Let's change some of the fonts in this worksheet to make it look more attractive. You can set the fonts in a worksheet, using the functions in the "Font" group of the "Home" tab. For example, let's change this text's font. To change the font of a cell's contents, first select the cell. Then, open the "Font" drop-down list. The list displays the available fonts in alphabetical order. Select the desired font, for example this one. The text will appear in the font you selected.

Now let's change the font size of the text. You can enter the desired size in the "Font Size" box, or open the Size drop-down list, and simply select a size from the list, for example this one. The text will appear in the size you selected, and the height of the row containing the text will automatically change to fit the new size.

Now let's apply a font style to another part of the worksheet, for example this text. Again, first select the cell containing the text. You can set the desired style using the "Style" buttons. These buttons include "Bold," "Italic," and "Underline." Let's select "Bold", and "Italic." The text's style will change to what you selected.

Now, let's change the font settings, of this cell. Once again, first select the cell. Then make the desired font selections. For example let's increase the font size of the text. Another way to change the font size is by using the "Increase Font Size" or "Decrease Font Size" buttons. You can click on the "Increase Font Size" button to make the text larger, or click on the "Decrease Font Size" button to make it smaller.

You can also underline the text by clicking on the "Underline" button. You can change the underline style by first clicking on the arrow next to the "Underline" button. The list of underline styles will open. The default selection is single underline. You can also apply double underline to the text. Let's leave the underline style unchanged. The cell's contents will appear as specified.

You can also make the text appear in color, by first clicking on the arrow next to the "Font Color" button. The gallery of colors will open. The default selection is "Automatic," which

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normally corresponds to black. You can select any color that you like, for example this one. The font will appear in the selected color.

B1.22 Alignment

You can change the alignment of data within a cell. You can align the data vertically in three ways. You can align it at the top of the cell, in the middle of the cell, or at the bottom of the cell

You can also align the data horizontally in three ways. You can align it to the left of the cell, in the middle of the cell, or to the right of the cell.

By default, text is aligned at the bottom left of the cell, and numbers are aligned at the bottom right of the cell.

You can change the alignment of a cell's data, using the buttons in the "Alignment" group, of the "Home" tab. The top row of buttons lets you set the vertical alignment, and the bottom row of buttons lets you set the horizontal alignment. For example, you can align this cell's text to the right, by first selecting it. Then simply click on the "Align Right" button. The text will be aligned as specified.

Now let's set the vertical alignment of the data in these cells to the middle. First select the cells by dragging over them. Then click on the "Middle Align" button. The cells' contents will be aligned as specified.

You can also center data across several cells. For example, you can center this text, across these cells. Simply select the cells by dragging over them, and then click on the "Merge and Center" button, in the "Alignment" group. The text will be centered across the cells.

B1.24 Number Formats

You can change the number format of the numbers in a spreadsheet to make them appear in different ways. For example, you can make a number appear with thousand separator commas, as dollars and cents, or as a percentage.

Let's make the numbers in these cells, appear with thousand separator commas. To change the number format of one or more cells, first select them. You can select a group of cells by simply dragging over them. Then click on the "Comma Style" button, in the "Number" group, of the "Home" tab. The selected numbers will appear in the specified format. By default, the numbers

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will contain 2 decimal places. You can change the number of decimal places using the "Increase Decimal", and "Decrease Decimal" buttons, in the "Number" group. Let's click on the "Decrease Decimal" button to make the numbers appear without decimals. The numbers will appear as you specified.

Now, let's make these numbers appear as dollars and cents. Again, first select the numbers. Then simply click on the "Accounting Number Format" button in the "Number" group. The numbers will appear in the specified format.

Now let's make this number appear as a percentage. Once more, first select the number. Then click on the "Percent Style" button in the "Number" group. The number will be displayed as a percentage with a percent sign after it. Let's click on the "Increase Decimal" button to add one decimal place to the percentage. The number will appear as you specified.

Excel provides other number formats that you can apply to the worksheet's data. If you open the "Number Format" drop-down list in the "Number" group, the list of all available number formats will be displayed. You can apply any of these formats to the data in your worksheet.

B1.26 Format Painter

Excel provides a useful feature, referred to as Format Painter that lets you apply the format of a cell to other cells.

Let's apply the format of some of the cells in this worksheet to other cells. For example, let's apply the font settings of this cell, to this one. To apply the format of a cell, first select it. Then click on the "Format Painter" button, in the "Clipboard" group, of the "Home" tab. A dashed line will appear around the cell, indicating its format has been copied. If you move the mouse pointer inside the worksheet, it will change to a "Cross", with a paintbrush next to it, indicating the Format Painter is active. You can then apply the copied format, to the desired cell, by simply selecting it with the Paintbrush pointer. The cell's format will change, to the format of the other cell, and the pointer will change back to a normal cross indicating the Format Painter is no longer active.

Now, let's apply the cell's format, to these cells as well. You can apply the format to multiple cells, without having to activate the Format Painter more than once. Simply double click on the "Format Painter" button, instead of single clicking on it. As before, the cell's format will be copied, and if you move the pointer inside the worksheet, it'll change to the paintbrush pointer. You can then apply the format to one of the desired cells, for example this one, by clicking on it.

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The format will be applied to the cell. This time however, the Format Painter will remain active to let you apply the format to other cells. You can then apply the format to the desired cells, by simply clicking on each one. Once you've applied the format to the cells that you want, you can deactivate the Format Painter by clicking on its button.

You can also use the Format Painter to apply a cell's number format to other cells. For example let's apply this cell's currency format, to these cells. Again, first select the cell, and then click on the "Format Painter" button. The cell's format will be copied, and the Format Painter will become active. You can apply the copied format to a group of cells, by simply dragging the Paintbrush pointer over them. The format will be applied to the cells.

B1.28 Resizing Rows and Columns

You can resize the rows and columns of your worksheet to make it look better and easier to read. Let's resize some of the rows and columns in this worksheet. For example, let's change this row's height. You can easily change a row's height, by first placing the mouse pointer over the bottom border of the row's number. The pointer will change to a "vertical double sided arrow" with a horizontal line in the middle. You can then drag the row's edge to change its height. When you press the mouse, the row's height will appear. The height is displayed in two units. The first unit is "Points" and the second unit is "Pixels." These units are described in the Frequently Asked Questions of this section. You can simply drag the row's edge to the desired height, and release the mouse button. The row's height will be set to what you specified.

Now let's change this row's height. Another way you can change a row's height, is to first select it by clicking on its number. The row will be highlighted. Then, click on the "Format" button, in the "Cells" group, of the "Home" tab, and select "Row Height" from the menu. The "Row Height" dialog box will appear, with the row's height displayed in a text box. The height's unit is "Points." Enter the desired height in the text box, for example this height, and then click on "OK." The row's height will be set as specified.

Now let's change the width of a column, for example this one. You can easily change a column's width, by first placing the mouse pointer over the right border of the column's letter. The pointer will change to a horizontal double sided arrow with a vertical line in the middle. You can then drag the column's edge to change its width. When you press the mouse, the column's width will appear. The width is displayed in two units. The first unit is "Number of Characters," and the second unit is "Pixels." These units are described in the Frequently Asked Questions of this section. You can simply drag the column's edge to the desired width, and release the mouse button. The column's width will be set to what you specified.

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Now, let's change this column's width. Another way you can change a column's width, is to first select it by clicking on its letter. The column will be highlighted. Then, click on the "Format" button, and select "Column Width" from the menu. The "Column Width" dialog box will appear, with the column's width displayed in a text box. The unit of the width is number of characters. You can enter the desired width, for example this width, and then click on "OK." The column's width will be set as specified.

You can also adjust the width of a column, for example this one, to exactly fit the widest data in it. First select the column. Then click on the "Format" button, and select "AutoFit Column Width" from the menu. The column's width will be adjusted to exactly fit its widest data.

Now let's adjust this column's width to exactly fit its widest data. Another way you can adjust a column's width to fit its data, is to first place the mouse pointer over the right border of the column's letter. Then simply double click. The column's width will be adjusted to exactly fit its data.

B1.30 Printing

Excel lets you easily print your worksheet, provided you have a printer properly set up and connected to your computer.

Before printing a worksheet, you can preview how it will appear in print, by first clicking on the "Office" button. Then move the mouse pointer over "Print." A list of print options will be displayed. Select "Print Preview" from the list. The worksheet will appear the way it would be printed. It will be displayed in reduced size, so you can view the whole page. Once you've finished previewing the worksheet, click on the "Close Print Preview" button on the toolbar to exit Print Preview.

You can quickly print a copy of the worksheet, by first opening the "Office" menu. Again move the mouse pointer over "Print" and select "Quick Print." A copy of the worksheet will be printed.

Another way you can print the worksheet is to first open the "Office" menu, and then click on "Print." The "Print" dialog box will appear. This dialog box provides various settings to let you specify how you want to print the worksheet.

The dialog box's "Printer" area displays information about the printer that would be used for printing the worksheet.

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If the worksheet's printout consists of multiple pages, you can use the options in the "Print range" area to specify which pages you want to print. By default, all pages will be printed. The "Pages From" option allows you to print specific pages. This worksheet's printout has only one page, so let's use the "All" option.

The "Print what" area contains options that let you specify which parts of the workbook you want to print. The default option is "Active sheets" meaning all the selected worksheets will be printed. The "Selection" option will only print the cells that are selected, and the "Entire workbook" option will print all the worksheets in the workbook. Let's use the default option.

The "Copies" area contains a "Number of copies" text box where you can enter how many copies you want to print. By default, one copy will be printed, but you can print any number of copies you want. Let's print two copies.

Once you've specified the desired print options, click on "OK." The worksheet will be printed as you specified.

B1.33 Office Clipboard

To use the "Office Clipboard," first click on the "Dialog Box Launcher" in the "Clipboard" group, of the "Home" tab. The "Clipboard" pane will open. The pane displays the list of items that you recently moved or copied. You can easily paste any of these items in the worksheet. First, select the cell where you want to paste the item, and then simply click on the item in the clipboard. The item will be pasted at the specified location.

The "Clipboard" pane also contains two buttons at the top: "Paste All" and "Clear All." You can use the "Paste All" button to paste all the items in the clipboard into your worksheet at once, and you can use the "Clear All" button to erase all the items in the clipboard.

To close the "Clipboard" pane simply click on its "Close" button.

B1.35 Getting Help

Excel provides help information on how to use its various functions. You can access the help information, either by clicking on the Help button on the right side of the Ribbon, or by pressing the F1 key on the keyboard. Let's click on the Help button. The help window will open. The list of help categories is displayed under "Browse Excel Help." Select the desired category, for

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example this one. The list of topics in that category will be displayed. Then select the desired topic, for example this one. The help information about the topic will be shown.

The help window also contains a search box that lets you find help information on a specific topic. Simply type in the desired topic in the search box, for example this one. Then click on "Search." A list of tasks related to the topic will be displayed. Click on the desired task, for example this one. The help information about the task will be shown.

The help window also contains several useful buttons.

The "Back" and "Forward" buttons let you go back and forth between the help pages that you've already viewed.

The "Stop" and "Refresh" buttons apply to accessing help information from the Internet. Excel 2007 may load some up-to-date help information from Microsoft's web site on the Internet. The "Stop" button allows you to stop the loading of a help page, and the "Refresh" button lets you reload a help page.

The "Home" button displays the main help page containing the help categories.

The "Print" button lets you print the contents of the help window.

The "Change Font Size" button lets you change the size of the text in the help window. If you click on this button, a list of available sizes will be displayed. Simply select the desired size, for example this one. The text size will change to what you specified.

The "Table of Contents" button provides you with a different way to access the help information. If you click on this button, the "Table of Contents" pane will appear, displaying the list of help categories. You can then select the desired category, for example this one. The topics in the category will be displayed under it. Then select the desired topic, for example this one. The information about the topic will be displayed.

The "Keep On Top" button lets you specify whether the help window always appears on top of the main Excel window, or can be moved to the back. By default, the help window always appears on top.

Once you're done working with the help window, you can close it.

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B1.38 Unit 1 End

You've reached the end of unit 1. Here is a summary of what you learned in this unit. You learned how to:

- Identify elements of the Excel window
- Enter data in a worksheet's cells
- Select, cut, copy, paste, modify and delete data
- Enter formulas using arithmetic operators
- Enter cell references in formulas
- Use the Sum and Average functions
- Save workbooks in different locations
- Create new workbooks
- Open existing workbooks
- Change the font type, size, style and color of data
- Align data in cells
- Change the number format of data
- Copy data formats using the Format Painter
- Resize a worksheet's rows and columns
- Preview and print a workbook
- Paste copied items using the Office Clipboard
- and Use Excel's online help

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Unit 2

B2 Unit 2

In this course, you'll learn how to:

- Fill Cells with Data
- Move and Copy Data Efficiently
- Insert and Delete Cells
- Insert and Delete Rows
- Insert and Delete Columns
- Correct Data Fitting Errors
- Perform a Spelling Check
- Find and Replace Data
- Specify Order of Operations
- Use Common Functions
- Insert Functions in Formulas
- Modify Formulas and Functions
- Copy Formulas and Functions
- Find and Correct Formula Errors
- Organize Worksheets
- Work with Multiple Worksheets
- Create Worksheets Using Templates
- and Save a Worksheet in Different Formats

B2.1 Filling Cells

Excel provides a "Fill" function that lets you enter data in several cells at once. You can fill cells, with the same data, or a series of data such as:

- text
- numbers
- text and numbers
- dates
- or times

Let's use the "Fill" function to enter some data in this worksheet. For example, let's fill these cells, with this data. You must begin by entering the data, in the first cell of the group you want

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to fill. Then select all the cells in the group, including the first cell by dragging over them. Now click on the "Fill" button, in the "Editing" group, of the "Home" tab. A menu containing different fill options will be displayed. Since the cells we want to fill, are below the one containing the data, we need to select the "Down" option. The cells will be filled with the data.

Now let's fill these cells, with this data. Again, enter the data, in the first cell of the group. Another way you can use the "Fill" function is by first placing the mouse pointer, over the little marker on the lower right corner of the cell, referred to as the "Fill Handle." The pointer will change to a Plus sign. Simply drag the pointer over to the last cell in the group, and release the mouse button. The cells will be filled with the data. In addition, a button referred to as "Auto Fill Options" will appear on the lower right of the cells. This button lets you modify the filled cells' contents and appearance. Simply ignore the button to keep the cells unchanged.

Now, let's go to another worksheet and fill some of its cells. For example, let's fill these cells, with this text series. You must begin with entering the first text of the series in the first cell of the group you want to fill. Again, place the mouse pointer over the "Fill Handle." The pointer will change to the Plus sign. Then simply drag the pointer over to the last cell in the group, and release the mouse button. The cells will be filled with the text series.

Now, let's go to another worksheet, and fill some of its cells. For example, let's fill these cells, with this number series. To fill cells with a number series, you must begin by entering the first two numbers in the series, into the first two cells of the group. You need to enter two numbers, so the "Fill" function can determine the increment for generating the next numbers in the series. After you've entered the first two numbers, select both by dragging the mouse pointer over them. Then, simply drag the "Fill Handle" over to the last cell in the group, and release the mouse button. The cells will be filled with the number series.

B2.3 Moving and Copying Data Efficiently

In this lesson, I'll teach you various efficient ways to move, copy, and delete data.

You can move and copy data by simply dragging it from one cell to another. Let's move this cell's data, to this cell. To move a cell's data, first select the cell. Then, place the mouse pointer over the cell's border. The cross will change to a regular pointer with a four sided arrow under it. Then simply drag the data to the desired cell, and release the mouse button. The data will be moved to the cell.

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You can move and copy data by simply dragging it from one cell to another. Let's move this cell's data, to this cell. To move a cell's data, first select the cell. Then, place the mouse pointer over the cell's border. The cross will change to a regular pointer with a four sided arrow under it. Then simply drag the data to the desired cell, and release the mouse button. The data will be moved to the cell.

Now let's copy data, for example from this cell, into this cell. Again, first select the cell containing the data. Then place the pointer over the cell's border. To copy the data, you must press and hold down the Control key. A Plus sign will appear next to the pointer, indicating the data will be copied, not moved. Then simply drag the data to the desired cell, and release the mouse button. The data will be copied in the cell.

You can easily delete, move, or copy the data in a group of cells. For example, let's delete the data in these cells. To delete the data in a group of cells, first select them by dragging over them, and then press the Delete key. The cells' data will be deleted.

Now let's move the data in a group of cells, for example these cells. Again, first select the cells by dragging over them. Then, place the mouse pointer over the cells' border, and drag them to the desired location, for example these cells. A gray border will mark the cells where the data will be placed. Simply release the mouse button. The data will be moved to the cells.

Now let's copy the data in a group of cells, for example these cells. Once again, first select the cells, and then place the mouse pointer over their border. To copy the cells, you must press and hold down the Control key. A Plus sign will appear next to the pointer, indicating the data will be copied. Then drag the cells to the desired location, for example here, and release the mouse button. The data will be copied to the cells.

You can also move and copy the data in an entire row or column. For example, you can move the data in this row, by first clicking on its number to select it. You can then move its data using cut and paste or by dragging. Let's drag the data by first placing the mouse pointer over the row's border. Then drag it to the desired row, for example this one.

Now, let's copy the data in this column. Again, first select the column by clicking on its letter. Then copy its data using copy and paste or by dragging. Let's click on the Copy button to copy the data. Then, select the column where you want to paste the data, for example this one, and click on the Paste button. The data will be copied there.

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B2.5 Inserting and Deleting Cells

You can insert a new cell in the middle of cells that contain data. For example, let's insert a cell here. First select the location where you want the new cell to appear. Then, simply click on the "Insert" button, in the "Cells" group, of the "Home" tab. A blank cell will be inserted at the current location, and the cell that was there before, plus those below it will be shifted down. You can then enter the desired data in the new cell.

Now, let's insert a cell here. You can also insert a cell, by shifting the cell at the current location, and those to its right, one cell to the right. Again, first select the desired cell. This time, click on the arrow to the right of the "Insert" button, and select "Insert Cells" from the menu. The "Insert" dialog box will open, displaying options for shifting the existing cells to create room for the new cell. Select the "Shift cells right" option, and click on "OK." A blank cell will be inserted at the current location, and the cell that was there before, plus those to its right, will be shifted to the right. You can then enter the desired data in the new cell.

Now, let's delete a cell, for example this one. Deleting a cell, is different from deleting a cell's data. Deleting a cell, may shift some of the cells around it. However, deleting a cell's data, does not affect the other cells.

To delete a cell, first select it. Then simply click on the "Delete" button, in the "Cells" group. The cell will be deleted, and the cells below it, will be shifted up.

Now, let's delete this cell. You can also delete a cell, and shift the cells to its right, one cell to the left. Again, first select the desired cell. This time, click on the arrow to the right of the "Delete" button, and select "Delete Cells" from the menu. The "Delete" dialog box will open, displaying options for adjusting the other cells after the selected cell is deleted. Select the "Shift cells left" option, and click on "OK." The cell will be deleted, and the cells to its right, will be shifted to the left.

B2.7 Inserting and Deleting Rows and Columns

You can easily insert a new row or column in your worksheet. For example, let's insert a row here. First click on the row number where you want the new row to appear. The row will be selected. Then click on the "Insert" button, in the "Cells" group, of the "Home" tab. A blank row will be inserted at the current location, and the row that was there before, plus those below it, will be shifted down. You can then enter the desired data in the new row.

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Now let's insert a new column here. First click on the column letter where you want the new column to appear. The column will be selected. Then simply click on the "Insert" button. A blank column will be inserted at the current location, and the column that was there before, plus those to its right, will be shifted to the right.

Now let's delete a row, for example this one. As before, first select the row, by clicking on its number. Then click on the "Delete" button, in the "Cells" group. The row will be removed, and the rows below it, will move up.

Now, let's delete a column, for example this one. Again, first select the column, by clicking on its letter. Then simply click on the "Delete" button. The column will be removed, and the columns to its right, will move to the left.

B2.9 Data Fitting Errors

A data fitting error can be produced by a number that's too long to fit in a cell. For example, if you add a digit to this number, a sequence of number signs will appear in the cell. The number signs indicate that the number in the cell doesn't fit.

You can easily correct this error by increasing the width of the column to fit the number. The number will then appear correctly.

A data fitting error can also be produced when the text is too long to fit in a cell, and the cell to the right contains data, preventing the text from spilling into it. For example, if you make this cell's text longer by adding a word before it, only the part of the text that fits in the cell will be visible. The rest of the text will be covered by the next cell.

You can correct this error by either increasing the column's width to fit the text, or by moving the data in the next cell to uncover the part of the text that's hidden. Let's move the cell's data. The whole text will become visible.

B2.11 Spelling Check

You can use the "Spelling" function to easily find and correct the spelling errors in your worksheet. To use the "Spelling" function, first click on the "Review" tab, and then click on the "Spelling" button, in the "Proofing" group. The "Spelling" dialog box will open, and the first

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spelling error in the worksheet will be found. The error will be displayed in a box at the top of the dialog box, and a list of suggestions for correcting the error will be displayed below it. Select the appropriate correction, which in this case would be this word. Then click on "Change." The error will be replaced with the selected correction, and the next error in the worksheet will be found.

Again, the error will be displayed in the dialog box, along with a list of suggested corrections. The appropriate correction for this error is already selected. If the error exists in more than one place, you can correct all the instances of the error at once, by simply clicking on "Change All". All instances of the error will be corrected.

Once there are no more spelling errors in the worksheet, a dialog box will open, indicating "The spelling check is complete for the entire sheet." Simply click on "OK" to close the dialog box.

B2.12 Find and Replace

You can easily find and replace specific items in a worksheet. To find an item, first click on the "Find & Select" button, in the "Editing" group, of the "Home" tab, and then select "Find" from the menu. The "Find & Replace" dialog box will open. Enter the item that you'd like to find, in the "Find what" box. For example, let's find this word. Once you've entered the desired text, click on "Find Next" to search for the word starting from the selected cell. The first instance of the word will be found. To find the word's next instance, simply click on "Find Next" again. The next instance will be found. You can find the other instances of the word in the same way.

You can easily replace the word found with a different word. For example, let's replace the word with this one. First click on the "Replace" tab. The "Replace" panel will move to the front. The panel contains the "Find what" box that also appeared in the "Find" panel, and another box labeled "Replace with." Enter the new word in this box. You can then click on "Replace" to replace only the current instance of the word, or click on "Replace All" to replace all instances of the word in the worksheet. Let's click on "Replace All." The word will be replaced throughout the worksheet, and a dialog box will appear, indicating "Excel has completed searching the worksheet." The number of replacements made will also be shown. Simply click on "OK" to close the dialog box.

Once you've found and replaced the desired items, close the "Find and Replace" dialog box.

B2.15 Formulas Containing Multiple Operators

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You can perform calculations, using formulas that contain multiple operators, such as addition, subtraction, multiplication, and division.

Let's enter a formula in this cell, to calculate the total discount, based on the data in these cells. The formula would consist of the sum of the prices multiplied by the discount rate.

Excel performs the operations in a formula in a predefined sequence. Normally, it performs the operations from left to right. But if the formula contains different operators, the order of operations may change. By default, multiplication and division are performed before addition and subtraction. Therefore in this formula, these numbers would be multiplied first, and then added to these numbers. However, this order of calculation would not produce the desired result because it calculates the discount on only one of the prices, and then adds that discount to the other prices. The correct result would be obtained by adding all the prices first, and then multiplying the result by the discount rate.

You can specify the desired order of calculation using parentheses. Simply put the operations that you want to be performed first, inside parentheses. Excel will perform those operations before others.

Now, let's enter the formula in the cell. As usual, in place of the actual numbers, you should use their cell references. The formula's result will be displayed.

B2.17 Commonly Used Functions

In addition to the Sum and Average functions, Excel provides other commonly used functions including:

- The "Count" function which returns the number of values in a list;
- The "Max" function which returns the largest value in a list;
- and the "Min" function which returns the smallest value in a list.

Let's use the "Count" function to count the number of values in these cells. First, select the cell where you want the count to appear, for example this one. Then, click on the down arrow to the right of the "AutoSum" button, in the "Editing" group, of the "Home" tab. The menu of commonly used functions will be displayed. Select "Count Numbers" from the menu. The "Count" function will appear in the cell. By default, the cells containing values above the function will be included in it. You can replace these cells with those that you want to include in

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the function by simply dragging over them. The cells will be included in the function. Then click on the "Enter" button. The number of values contained in the cells will be displayed.

Now let's use the "Max" function, to get the largest value contained in the cells. Again, first select the cell where you want the result to appear, for example this one, and click on the down arrow to the right of the "AutoSum" button. Then select "Max." The "Max" function will appear in the cell, with the cells above it included in it. As before, select the cells that you want to include in the function by dragging over them, and then click on the "Enter" button. The largest value in the cells will be displayed.

Now let's use the "Min" function, to get the smallest value contained in the cells. Once again, first select the cell where you want the result to appear, for example this one. Then click on the down arrow to the right of the "AutoSum" button, and select "Min." Now select the cells that you want to include in the function, and click on the "Enter" button. The smallest value in the cells will be displayed.

B2.19 Inserting Functions in Formulas

Excel lets you insert functions in a formula to make calculations easier. Let's perform some calculations in this workbook by inserting functions in formulas. For example, let's enter a formula in this cell to calculate the net profit based on these revenue and expense figures.

The formula for the net profit would be the total revenue, minus the sum of the expenses. To enter this formula, first select the result cell, and type in the Equal sign. Then enter the revenue's cell reference in the formula by clicking on its cell. Now, type in a minus sign. You can enter the sum of the expense cells after the minus sign by simply inserting the Sum function in the formula.

To insert a function, first click on the "Insert Function" button on the Formula bar. The "Insert Function" dialog box will appear. This dialog box contains a search box that lets you find the desired function. It also provides a drop-down list containing the available function categories. The default category is the "Most Recently Used" functions. The functions in the category are displayed in the dialog box's main pane. The Sum function is selected by default. Simply click on the OK button. The "Function Arguments" dialog box will appear to let you enter the desired values in the function. You must enter the values that you want to include in the sum, in the text box labeled "Number1." You can easily select the cells containing the values, by first clicking on the button to the right of the text box. The dialog box will be reduced to a text box, uncovering the worksheet. You can then select the cells that you want to include in the sum, by dragging

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over them. The cells' references will appear in the text box. Then click on the button to the right of the text box again. The whole dialog box will be displayed. Now click on "OK." The function will be inserted in the formula, and the formula's result will be displayed in the result cell.

Now, let's go to another worksheet, and perform a calculation in it. For example, let's enter a formula in this cell to calculate the total profit.

You can easily perform this calculation by setting the formula to the sum of the revenues, minus the sum of the expenses. As before, first select the cell where you want to enter the formula, and then click on the "Insert Function" button. The "Insert Function" dialog box will appear, with the Sum function already selected. Simply click on "OK." The "Function Arguments" dialog box will appear to let you enter the values to include in the Sum. Click on the button to the right of the first text box. Select the desired cells, and click on the button to the right of the text box again. The whole dialog box will appear. Now, click on "OK." The function will be entered in the Formula bar. Now, type in a "Minus" sign after the function in the Formula bar, and then insert the second Sum function just like the first one. The function will be added to the formula, and the result will appear in the cell.

B2.21 Modifying Formulas and Functions

You can easily modify the formulas and functions in a worksheet.

Let's modify the formula in this cell. To modify a formula, first select its cell. The formula will appear in the Formula bar. If you click on the formula, the cells that are included in it will be highlighted. You can then make the changes you want to the formula. For example, you can add this cell's data to the calculation, by first entering a Plus sign at the end of the formula. Then simply click on the cell. The cell will be added to the formula. Once you've made the desired changes, click on the "Enter" button. The new result will appear in the cell.

Now let's modify the function in this cell. Again, first select the cell. The function will appear in the Formula bar. If you click on the function, the cells included in it will be highlighted. Simply make the changes you want to the function by editing it in the Formula bar. For example, let's remove this cell's data from the function by changing the last cell reference, to this cell. As before, once you've made the desired changes, click on the "Enter" button. The new result will appear in the cell.

Now let's modify the function in this cell. Once more, first select the cell, and then make the desired changes to the function in the Formula bar. Again, if you click on the function, the cells it

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includes will be highlighted. Let's change the first cell in the function, to this cell. Sometimes after you've modified a calculation, you may not like the changes you made, and want to undo your changes. In such a case, you can simply click on the "Cancel" button. The original calculation and its result will be restored.

B2.23 Copying Formulas and Functions

You can copy a formula or function to perform the same calculation on different sets of data.

Let's copy one of the formulas in this worksheet, for example the formula in this cell. First, let's select the cell to display the formula it contains. The formula will appear in the Formula bar. This formula performs a calculation, on these cells. You can perform the same calculation, on these cells, by copying the formula, into this cell. You can copy a formula like regular data using simple copy and paste. The result of the copied formula will be displayed. The copied formula will refer to the cells in its own row, instead of the cells in the original formula. This is because the formula's cell references are "Relative" meaning they change relative to the formula's position.

Now, let's copy another formula, for example this one. If you display the formula, you'll see that it includes these cells. Let's copy the formula, into this cell. The copied formula will include these cells, instead of those in the original formula. However, the formula no longer produces the correct result, because the reference to this cell has changed to an empty cell.

You can prevent a cell reference in a formula from changing when the formula is copied, by making it an "Absolute" cell reference. Let's select this formula again, and make this cell's reference absolute so it won't change when the formula is copied. To make a cell reference absolute, simply insert a Dollar sign, before the column letter, and insert another Dollar sign before the row number. The Dollar signs indicate that the cell reference's column and row, should not change when the formula is copied. Now if you copy the formula again, the correct result will be displayed, because the relative reference has changed, from this cell, to this one, but the absolute cell reference, has remained the same as in the original formula.

Now let's copy these two formulas, into these cells as well. You can quickly copy the formulas, by first selecting them. Then simply drag the "Fill Handle" over the desired cells. The formulas will be copied into their respective cells. If you display one of the formulas, for example this one, you'll see that its cell references have been modified to include the appropriate cells.

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You can also copy functions the same way you copy formulas. For example, let's copy this function. Again first select the function. This function calculates the sum, of these cells. You can copy the function, into these cells, to calculate the sum of these cells. Simply drag the "Fill Handle "of the cell containing the function over the desired cells. The function will be copied in the cells.

Sometimes you may want to copy the result of a formula or function and paste it in another cell as a number, not as a formula or function. For example, let's copy the result of the function in this cell, and paste its value here. First select the cell containing the function, and click on the Copy button. Then select the cell where you want to paste the function's result. Now, click on the bottom part of the Paste button, and select "Paste Values." The function's result will be entered in the cell as a number. If you look at the Formula bar, you can see that the cell contains a plain number, not a function.

B2.25 Formula and Function Errors

Excel will produce various errors when it can't properly calculate the result of a formula or function. The following are some of the most common errors:

The "Divide by Zero" error happens when the calculation contains a division by zero. For example, this formula produces a "Divide by Zero" error, because it divides a cell containing a number, by a cell containing zero.

The "Invalid Name" error happens when the calculation contains an entry that Excel can't recognize. For example, this formula produces an "Invalid Name" error, because it contains an unknown entry.

The "Error in Value" happens when the calculation contains a value with an incorrect data format. For example, this formula produces an "Error in Value", because it contains a sum that includes a text cell.

The "Invalid Cell Reference" error happens when the calculation includes a cell that's deleted from the worksheet. For example, this formula will produce an "Invalid Cell Reference" error, if one of the cells that it refers to, is deleted. This error would only be caused, by deleting the cell itself, not by deleting the cell's data.

The "Circular Reference" error happens when a calculation refers to itself. For example, this formula produces a "Circular Reference" error, because it includes its own cell reference.

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You can identify and correct an error, for example this one, by first clicking on its cell. An error button will appear next to the cell. If you click on this button, a menu containing selections related to the error will be displayed. The error's description is shown at the top, indicating this is a "Divide by zero" error. To correct the error, first select "Edit in Formula bar." The formula bar will be activated, and the cells included in the formula will be highlighted. If you look at the formula, you'll see that it includes a division by a cell that contains zero. You can correct the error by changing the cell's data to a non-zero value. The error will be corrected.

Now let's correct the error in this cell. Again, first select the cell, and then click on the error button. The error menu will appear, with the error's description at the top, indicating this is an "Invalid Name error." As before, you can correct the error, by first selecting "Edit in Formula bar." The formula bar will be activated, and the cells included in the formula will be highlighted. If you look at the formula, you'll see that it contains a cell reference with an invalid row. Simply modify the cell reference to make it refer to the appropriate cell. The error will be corrected.

Excel also provides an "Error Checking" function that helps you find and correct errors in the worksheet. To use this function, first click on the "Formulas" tab. Then click on the "Error Checking" button, in the "Formula Auditing" group. The "Error Checking" dialog box will appear, and the next error cell in the worksheet will be selected. The error's description is displayed in the dialog box, indicating this is an error in Value. To correct the error, first click on the "Edit in Formula bar" button. The Formula bar will be activated, and the cells in the formula will be highlighted. The formula contains a sum that includes this text cell. Simply remove the cell from the formula. The error will be corrected.

You can continue to search for errors by clicking on the "Resume" button. The next error will be found. This error is an Invalid Cell Reference error, indicating that the formula refers to a cell that may have been deleted from the worksheet. As before, to correct the error, first click on "Edit in Formula bar." Then remove the invalid cell reference from the formula. The error will be corrected.

Again, click on the "Resume" button. If the worksheet doesn't contain any more errors, a dialog box will appear indicating: "The error check is complete for the entire sheet." Simply click on OK to close the dialog box.

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B2.27 Organizing Worksheets

In this lesson, I'll teach you how to perform some basic worksheet management tasks, to organize multiple worksheets in a workbook. I'll show you how to:

- Rename worksheets
- Rearrange worksheets
- Insert and delete worksheets
- and Refer cells in different worksheets

Renaming Worksheets

By default, Excel assigns the name "Sheet" followed by a number to each of the worksheets in the workbook. You can change the worksheets' names to better reflect what they contain. For example, let's change the name of the worksheet being displayed, to this name. To rename a worksheet, first double click on its name tab. The name will be highlighted. Then, type in the desired name, for example this one, and press the "Enter" key. The worksheet's name will change to the name you entered.

Now let's rename this worksheet. Again, first double click on the worksheet's name tab. Then type in the desired name, for example this one, and press the "Enter" key. The worksheet's name will change to the name you entered.

Rearranging Worksheets

You can rearrange the worksheets to make them appear in the desired sequence within the workbook. For example, let's move this worksheet, to the first position in the workbook. You can move a worksheet, by simply dragging its name tab. When you press the mouse button, a little icon representing the worksheet will appear under the mouse pointer, and an arrow will be displayed above the tab, indicating where the worksheet will be placed. Drag the icon so that the arrow points to the desired location, and release the mouse button. The worksheet will move to that location.

Inserting and Deleting Worksheets

Excel lets you insert new worksheets in a workbook to enter additional data. To insert a worksheet, simply click on the "Insert Worksheet" tab. A blank worksheet will be added to the workbook. You can then enter the desired data in it.

You can easily delete a worksheet from your workbook. For example, let's delete this worksheet. To delete a worksheet, first click on its name tab. Then click on the arrow to the right of the

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"Delete" button, in the "Cells" group, of the "Home" tab, and select "Delete Sheet" from the menu. A dialog box will appear warning you that the worksheet may contain data. To permanently delete the worksheet and its data, click on the "Delete" button. The worksheet will be deleted from the workbook.

Refer Cells in Different Worksheets

You can perform calculations using data contained in different worksheets. For example, let's add the total in this worksheet, to the total in this one, and enter the result in this worksheet. First, select the cell where you want the result to appear, for example this cell, and enter the "Equal" sign to start a formula. Then go to the first worksheet, and click on the desired cell. The cell's reference will be entered in the formula, with the worksheet's name before it to indicate the cell belongs to this worksheet. Now type in the "Plus" sign in the formula. Then go to the second worksheet, and click on the desired cell. Again, the cell's reference will be entered in the formula, with the worksheet's name before it. Now, simply click on the Enter button. The formula's result will be entered in the worksheet containing the formula. Let's enter a heading in this cell to indicate what this data represents.

B2.29 Templates

Excel provides a variety of pre-formatted, ready-to-use worksheets, referred to as "Templates." You can use templates to easily create common worksheets, such as an invoice, timecard, expense statement, or balance sheet.

To create a worksheet based on a template, first click on the "Office" button, and then select "New." The "New Workbook" window will open. This window, displays a list of template groups. The "Blank and Recent" group contains the recently used templates. The "Installed Templates" group contains all the templates installed on the computer. The "My templates" group contains the templates that you create yourself. "New from existing" lets you create a new template from an existing workbook. In addition, there are several template groups under Microsoft Office Online. Each group contains a variety of templates that you can download from Microsoft's web site on the Internet.

Let's select "Installed Templates" to see the templates installed on the computer. The list of all installed templates will be displayed. You can scroll through the list, and select the desired template, for example this one. A sample of the template will be shown in the preview area. Simply click on "Create." A new worksheet will be created based on the template. The worksheet will contain cells with preset layout and formatting. You simply need to enter the appropriate information in each cell. For example, let's enter information in these cells.

NOTES:

After you make changes to the worksheet, you can save it as a new template so you can use it again later. To save the worksheet as a new template, first click on the "Office" button, and then select "Save As." The "Save As" dialog box will open. Then, open the "Save as type" list, and select "Excel Template" as the file type. The location will change to the "Templates" folder, the default location for saving your templates. Before saving the template, enter the desired name for it, in the "File name" box. Let's change the template's name, to this one. Then click on "Save." The template will be saved.

Now let's close this workbook, and then create a new workbook based on the template we just saved. As before, first click on the "Office" button, and then select "New." The "New Workbook" window will open. Click on "My templates." A dialog box will open, displaying the templates saved in the "Templates" folder. Here's the template we saved. You can create a new workbook based on this template by simply double-clicking on it.

NOTES:

B2.31 Time Saving Tips

In this lesson, I'll give you a few tips for performing some common tasks more quickly. I'll show you how to:

- Calculate the sum of the numbers in multiple rows or columns
- and Select the entire worksheet with a single click

Calculating the sum of the numbers in multiple rows or columns

You can calculate the sum of the numbers in multiple rows or columns at once. For example, let's calculate the sum of the numbers in these columns. First select the cells below the numbers in each column, and then click on the "Sum" button in the "Editing" group of the "Home" tab. The sum of the numbers in each column will be entered below them.

Now, let's calculate the sum of the numbers in these rows. First select the cells to the right of the numbers in each row, and then click on the "Sum" button. The sum of the numbers in each row will be entered to their right.

Selecting the entire worksheet with a single click

You can select the entire worksheet at once by simply clicking on the button at the corner of the row numbers and column letters. All the worksheet's cells will be selected.

B2.33 RS-Save Formats

This reading supplement provides information on how to save a workbook's data in formats other than the default Excel Workbook format. It includes the following topic:

- Saving data in Tab or Comma delimited format

Saving data in Tab or Comma delimited format

You can save a workbook's data in **Tab delimited** or **Comma delimited** format so it can be shared with other programs that process and manage data.

These formats store the worksheets data as plain text, with the data in each row on a separate line.

- In the **Tab delimited** format, the columns are separated by tabs.
- In the **Comma delimited** format, the columns are separated by commas.

NOTES:

To save a workbook in **Tab delimited** or **Comma delimited** format:

- 1) Open the **Office** menu, and select **Save As**.
- 2) In the **Save As** dialog box, open the **Save as Type** list, and select **Text (Tab delimited)** or **CSV (Comma delimited)**.
- 3) Click on the **Save** button.
- 4) A dialog box will appear to let you know that the selected file type does not support workbooks that contain multiple worksheets. Click on **OK**.
- 5) Another dialog box will appear indicating that some features in the worksheet may not be compatible with the selected format. Click on the **Yes** button to save the file in this format.

B2.36 Unit 2 End

You've reached the end of Unit 2. Here is a summary of what you learned in this unit. You learned how to:

- Use the AutoFill function to copy data or enter a data series
- Select, move, copy, and delete the data in a group of cells
- Insert and delete cells, rows and columns
- Identify and correct errors related to fitting data in a cell
- Check the spelling of a worksheet's contents
- Find and replace data in a worksheet
- Use parentheses to set the order of operations in a formula
- Use the Count, Max, and Min functions
- Insert functions in a formula
- Modify formulas and functions
- Copy calculations using absolute or relative cell references
- Identify and correct common formula and function errors
- Rename, rearrange, insert and delete worksheets
- Work with Multiple Worksheets
- Create new worksheets based on templates
- and Save a worksheet in different formats

NOTES:

Unit 3

B3 Unit 3

In this course, you'll learn how to:

- Wrap Text in a Cell
- Change Data Orientation
- Add Cell Borders
- Add Cell Backgrounds
- Apply Styles
- Insert Clip Art
- Add Drawings
- Insert Page Breaks
- Add Headers and Footers
- Hide Rows and Columns
- Sort Data
- Filter Data
- Define a Print Area
- Set Print Options
- Create and Modify Charts
- Interpret Data and Charts
- and Follow Proper Guidelines for Creating Spreadsheets

B3.1 Wrapping Text in a Cell

You can use the "Wrap Text" option, to display a long text in a single cell, using multiple lines.

Sometimes, when the text in a cell is too long to fit in it, for example this cell, only part of the text will be displayed, because the next cell contains data, preventing the text from spilling into it.

You can make the whole text appear in the cell by setting the cell's "Wrap Text" option. First select the cell, and then click on the "Wrap Text" button in the "Alignment" group, of the "Home" tab. The whole text will appear in the cell in multiple lines. The cell's height will be automatically adjusted to fit all the lines.

NOTES:

B3.3 Changing the Orientation of Data

You can change the orientation of data in a worksheet's cells, to make the data appear at an angle. Let's change the orientation of the data in this cell. First select the cell. Then click on the "Orientation" button in the "Alignment" group, of the "Home" tab. A menu will open, displaying various data orientation options. Select the desired orientation, for example this one. The data in the cell will be oriented as specified.

Now, let's change the orientation of the data in these cells. Again, first select the cells, and click on the "Orientation" button. You can also set the data orientation, by selecting "Format Cell Alignment" from the menu. The "Format Cells" dialog box will open, with the "Alignment" panel in front.

The area labeled "Orientation" contains elements that let you change the data's orientation. If you click on the box to the left, the data will appear vertically. You can make the data appear at an angle, by dragging the red marker in the box on the right. For example, if you drag the marker below the center line, the data will tilt down. If you drag the marker above the center line, the data will tilt up. The tilt angle is shown in the "Degrees" text box below. You can also enter a specific angle in the box. Let's set the tilt angle to 45 degrees. Once you've specified the desired orientation, click on OK. The data in the cells will be oriented as specified.

B3.5 Cell Borders

You can make cells stand out in a worksheet, by adding borders to them. Let's add borders to these cells. First select the cells. Then, click on the arrow next to the "Border" button, in the "Font" group, of the "Home" tab. A menu containing various borders will be displayed. A sample of each border is displayed next to it. Let's select "All Borders" to add a border around each cell. Now if you deselect the cells, you'll see that the cells will appear with the specified border.

Now, let's add borders to these cells. As usual first select the cells, and then click on the down arrow next to the "Border" button. Another way you can add borders to the cells, is by first selecting "More Borders" from the menu. The "Format Cells" dialog box will open, with the "Border" panel in front.

The panel contains an area labeled "Line," which contains different line styles that you can use for the border. Simply select the desired line style, for example this one.

NOTES:

The "Line" area also contains a "Color" drop down list that lets you select a color for the border line. The default selection, "Automatic," normally corresponds to black. You can select the desired color, for example this one, by simply clicking on it.

The "Presets" area contains buttons corresponding to predefined borders. The "None" button removes any existing cell borders. If you click on the "Outline" button, a border will appear around the selected cells, as shown in the preview pane. If you click on the "Inside" button, a border will also appear between the cells.

You can modify individual border lines using the buttons around the preview pane. For example, you can remove the top border by clicking on the "Top Border" button. You can add the top border back in by clicking on the button again. Similarly, you can remove the right border by clicking on the "Right Border" button, and you can add the border back in by clicking on the button again.

You can also modify the borders by clicking on them in the preview pane. For example, you can remove the inside border by simply clicking on it, and you can add the border back in by clicking on it again.

Once you've specified the desired border, click on OK. Now if you deselect the cells, you'll see that they appear with the border you specified.

B3.7 Cell Shading

You can make a worksheet look more attractive, by adding shading to its cells. Let's add shading to these cells. First select the cells. Then click on the down arrow to the right of the "Fill Color" button, in the "Font" group, of the "Home" tab. A gallery of colors will be displayed. Select the desired shading color, for example this one. Now if you deselect the cells, you'll see that the shading you selected has been applied to the cells.

Now, let's add shading to these cells. Again, first select the cells. Another way you can apply shading to the cells, is by first clicking on the "Font" dialog box launcher. The "Format Cells" dialog box will open. Click on the "Fill" tab to move its panel to the front. This panel contains a variety of shading colors. Select the desired color, for example this one.

The panel also contains a "Pattern Style" drop-down list that lets you apply a pattern to the shading. You can simply select a pattern from the list, for example this one. You can also select a color for the pattern, from the "Pattern Color" drop-down list. Let's select this color.

NOTES:

Once you've specified the desired shading, click on "OK." Now if you deselect the cells, you'll see that the shading you selected has been applied to them.

B3.9 Styles

Style refers to a combination of formats including number format, alignment, font, border, and shading. Excel 2007 provides a variety of pre-designed styles that you can quickly apply to any cell in the worksheet.

Let's apply a style to these cells. First select the cells. A partial list of styles is displayed in the "Styles" group, of the "Home" tab. You can click on the "More" button on the list's lower right to display the entire list. Each style displays a sample of how a cell will appear in that style, along with the style's name. Simply click on the desired style, for example this one. Now if you deselect the cells, you'll see that the style has been applied to them.

In addition to using the predesigned styles, you can also create your own style, and apply it to the cells in your worksheet. To create a new style, first open the "Style" list, and then click on "New Cell Style" at the bottom of the list. The "Style" dialog box will open. Enter a name for the style in the "Style name" box.

The default formats included in the style are displayed, with a selected check box next to each one. You can remove a format that you don't want to be included in the style, for example this one, by simply deselecting its check box. The format will be removed from the style.

You can modify the formats included in the style, by first clicking on the "Format" button. The "Format Cells" dialog box will open. You can select the desired style formats in the appropriate panels of this dialog box. For example, you can display the "Font" panel, and select the font settings you like. Similarly, you can display the "Border" panel, and select the border you like. Once you've specified the desired formats, click on "OK." The formats will be included in the style. You can then save the style, by clicking on the "OK" button in the "Style" dialog box. The style will be added to the Style list.

Now, let's apply the style we created, to these cells. Simply select the cells, and click on the style. Now if you deselect the cells, you'll see that the style has been applied to them.

B3.11 Inserting Clip Art

NOTES:

Excel provides a collection of images, referred to as "Clip Art", that you can insert into your worksheet to make it look more attractive.

Let's insert a clip art image in this worksheet. First, select the cell where you want the image to appear, for example here. Then, click on the "Insert" tab, and click on the "Clip Art" button in the "Illustrations" group. The "Clip Art" task pane will open to let you find and insert the desired clip. The "Clip Art" task pane will open to let you find and insert the desired clip. You can find a clip by first entering its description in the "Search for" box at the top of the pane. For example, let's look for this clip.

The task pane contains a "Search in" drop-down list that lets you specify the locations to search for the clip. The default selection is, "Everywhere," which means all the locations containing clips will be searched. Let's keep the default selection.

The pane also contains a "Results should be" drop-down list that lets you specify the type of clip to search for. The list includes various types of media clips, with "Clip Art" selected by default. Let's leave the other types deselected and use the default selection.

Once you've specified the desired search parameters, click on the "Go" button. Excel will find and display a list of clip art images based on your specifications. You can scroll through these clips, and insert the one you like, for example this clip, by simply clicking on it. The clip will appear in the worksheet. You can then close the "Clip Art" task pane.

The clip will be automatically selected, and will have a border around it to let you resize and rotate it as desired. You can drag the side handles in the clip's border to change its width, drag the top and bottom handles to change its height, and drag the corner handles to change its height and width at the same time. You can also rotate the clip, by simply dragging the green handle on its top border in the desired direction. In addition, you can move the clip anywhere in the worksheet, by simply dragging it to the desired location. Once the clip appears the way you want, you can deselect it.

B3.14 Adding Drawings

Excel lets you easily draw various lines, shapes, and objects in your worksheet. Let's add some drawings to this worksheet.

To add a drawing first click on the "Insert" tab. Then click on the "Shapes" button in the "Illustrations" group. A gallery of drawings divided into different categories will be displayed.

NOTES:

Let's draw some lines. You can draw a regular line by first clicking on the "Line" button. Then, click where you want to start the line, for example here. Now, drag the pointer to draw the desired line, and release the mouse button. The line will be placed in the worksheet, and a "Format" tab containing various drawing tools will be added to the Ribbon. The line will be automatically selected, as indicated by the small circles displayed on its ends. You can deselect the line by clicking anywhere outside it.

Now, let's draw an arrow. Again, click on the "Insert" tab, and click on the "Shapes" button in the "Illustrations" group. Then click on the "Arrow" button, and as before, click at the desired location and drag to draw the arrow. The arrow will be placed in the worksheet. Again, the "Format" tab will appear on the Ribbon. The gallery of drawings will be displayed in the "Insert Shapes" group on the left of the tab.

You can also use this gallery to add the desired drawings. For example, you can draw a rectangle by first clicking on the "Rectangle" button. Then, click and drag as before to draw the desired rectangle. You can use the "Rectangle" button to also draw a square. You would just need to hold down the Shift key while dragging. The result will be a perfect square.

Similarly, you can draw an oval by first clicking on the "Oval" button. Then, click and drag to draw the desired oval. You can use the "Oval" button to also draw a circle. As before, simply hold down the Shift key while dragging. The result will be a perfect circle.

You can display the entire gallery of drawings, by clicking on the "More" button on the gallery's lower right. Now let's draw an object, for example this one. Again, click and drag to draw the object. Then click anywhere outside it to deselect it.

NOTES:

B3.16 Modifying Drawings

You can modify the drawings in a worksheet in various ways. You can move a drawing, for example this one, by simply dragging it to the desired location.

You can resize a drawing, for example this one, by first selecting it. Handles for resizing the drawing will appear around it. You can drag the side handles to change the drawing's width, drag the top or bottom handles to change its height, and drag the corner handles to change its height and width at the same time.

You can also rotate the drawing, by simply dragging the green handle on its top border in the desired direction.

You can add color to a line, for example this one, by first selecting it. Then click on the "Format" tab, and click on the right hand part of the "Shape Outline" button in the "Shape Styles" group. A list of colors will be displayed. Select the desired color, for example this one. The line's color will change to the one you selected.

You can also fill a shape, for example this one, with color. Again first select the shape. Then click on the right hand part of the "Shape Fill" button in the "Shape Styles" group, and select the desired color, for example this one. The shape will be filled with the color you selected.

You can apply a style to a shape, for example this one, by first selecting it. A partial gallery of styles is displayed, in the "Shape Styles" group. You can click on the gallery's "More" button to view the entire gallery. Then select the style you like, for example this one. The style will be applied to the shape.

You can add an effect to a drawing, for example this shape, by first selecting it. Then click on the "Shape Effects" button in the "Shape Styles" group. A menu of different effect categories will open. If you place the mouse pointer over an effect category, for example this one, the gallery of effects available in that category will be displayed. You can then select the desired effect, for example this one. The effect will be applied to the shape.

You can replace a drawing, for example this shape, with another one. Again, first select the shape. Then click on the "Edit Shape" button, in the "Insert Shapes" group, and move the mouse pointer over "Change Shape." The gallery of drawings will be displayed. Select a new shape from the gallery, for example this one. The shape will change to the one you selected.

NOTES:

B3.19 Page Breaks

If a worksheet is too large to be printed on one page, Excel will insert automatic horizontal and vertical page breaks in the worksheet. The page breaks will divide the worksheet, into multiple pages. You can also insert a manual page break at a specific location in the worksheet, to make the data, which follows it, start on a new page.

Let's insert some page breaks in this worksheet. For example, let's insert a horizontal page break here, to make the data below it start on a new page. To insert a horizontal page break, first select the row below where you want the page break to be placed. Then open the "Page Layout" tab, click on the "Breaks" button in the "Page Setup" group, and select "Insert Page Break" from the menu. A page break will be inserted above the selected row.

Now, let's insert another horizontal page break here. As before, first select the row below where you want the page break to be placed. Then click on the "Breaks" button, and select "Insert Page Break." A page break will be inserted at the specified location.

Now let's insert a vertical page break here, to make the data to its right start on a new page. To insert a vertical page break, first select the column to the right of where you want the page break to be placed. Then click on the "Breaks" button and select "Insert Page Break." A page break will be inserted to the left of the selected column. Now let's insert another vertical page break, for example here. As before, select the column to the right of where you want to the page break to be placed, click on the "Breaks" button and select "Insert Page Break." A page break will be inserted at the location you specified.

You can view how the page breaks divide the worksheet into different pages, by first clicking on the "View" tab. Then click on the "Page Break Preview" button in the "Workbook Views" group. The worksheet will appear in reduced size, showing how the page breaks divide the worksheet into multiple pages. You can go back to the normal view, by simply clicking on the "Normal" button in the "Workbook Views" group.

You can easily remove the page breaks that you inserted in the worksheet. To remove a horizontal page break, for example this one, first select the row below it. Then click on the "Page Layout" tab. Click on the "Breaks" button in the "Page Setup" group and select "Remove Page Break" from the menu. The page break will be removed. To remove a vertical page break, for example this one, first select the column to its right. Then click on the "Breaks" button and select "Remove Page Break." The page break will be removed.

NOTES:

B3.21 Header and Footer

Excel lets you enter information about your spreadsheet, in two predefined areas at the top and bottom of a page. The top area is referred to, as the "Header," and the bottom area is referred to, as the "Footer." The header and footer are used to display information such as the spreadsheet's title, date, or page number. The information entered in the header and footer will be printed on all the pages of the spreadsheet.

Let's add a header and footer to this workbook. To display the header and footer areas, you must change the view to "Page Layout," by first clicking on the "View" tab. Then click on the "Page Layout" button in the "Workbook Views" group. The view will change to "Page Layout," and the workbook's header will be displayed. You can then simply click on the header, and enter the desired information in it. For example, let's enter a title for the workbook.

When you add a header or footer, a "Design" tab containing functions related to headers and footers will be added to the Ribbon. You can use the buttons in the "Header and Footer Elements" group of this tab to quickly insert information in the header or footer. For example, you can insert the current date in the left part of the header, by first clicking there. Then simply click on the "Current Date" button. The current date will be entered in the header.

Now, let's display the footer, by simply clicking on the "Go to Footer" button in the "Navigation" group. The footer area will be displayed.

Another easy way you can enter information in the header and footer is using the buttons in the "Header & Footer" group. For example, if you click on the "Footer" button, a menu of pre-defined information that can be entered in the footer will open. You can simply select the desired information, for example this one. The information will be entered in the footer.

You can format the header and footer contents like normal text. Let's scroll up to the header, and format the text in the header's middle section. First click on the section to select its text. Then click on the "Home" tab, and use the buttons in the "Font" group to format the text as desired. For example, let's increase the text's font size, and change its style to "Italic."

You can also easily delete the information in the header or footer. For example, you can remove the contents of this header section, by simply clicking on it, and pressing the Delete key. Then click outside the header to close it.

NOTES:

You can preview how the header and footer will appear in print, by first clicking on the "Office" button. Then move the mouse pointer over "Print," and select "Print Preview." A sample printout of the worksheet with its header and footer will be displayed. Then simply click on the "Close Print Preview" button.

B3.23 Hiding Rows and Columns

You can make your worksheet less crowded and easier to view by hiding some of its rows and columns.

Let's hide some of the rows in this worksheet, for example these rows. To hide a group of rows, first select them by dragging over their row numbers. Then click on the "Format" button, in the "Cells" group, of the "Home" tab. A menu will appear, displaying various categories of functions for formatting the selected rows. Move the mouse pointer over "Hide & Unhide" under the "Visibility" category, and select "Hide Rows" from the submenu. The rows will disappear from the worksheet.

Now let's hide these columns. Again, first select the columns by dragging over their column letters. Then click on the "Format" button, move the mouse pointer over "Hide & Unhide," and select "Hide Columns." The columns will disappear.

Hiding rows and columns doesn't actually remove them from the worksheet, or affect any formulas and functions referring to their cells. The hidden rows and columns just won't be displayed or printed.

You can tell which rows and columns are hidden, by looking at the row numbers and column letters. For example, if you look at the row numbers, you'll see that they jump from 5 to 9, indicating that rows 6 through 8 are hidden. Similarly, if you look at the column letters, you'll see that they jump from C to F, indicating that columns D and E are hidden.

You can easily make the hidden rows and columns reappear in the worksheet. To display the hidden rows, first select the rows above and below them. Again, click on the "Format" button, move the mouse pointer over "Hide & Unhide," and select "Unhide Rows." The rows will reappear.

To display the hidden columns, first select the columns to their left and right. As before, click on the "Format" button, move the pointer over "Hide & Unhide," and select "Unhide Columns." The columns will reappear.

NOTES:

B3.25 Sorting Data

You can sort the data in a worksheet to make it more organized and easier to analyze.

Let's sort this worksheet's data. For example, let's sort the names in this column. First, select one of the column's cells. Then click on the "Sort & Filter" button, in the "Editing" group of the "Home" tab. A menu will open to let you specify the sort order. "Sort A to Z", will sort the data alphabetically from A to Z, and "Sort Z to A," will sort the data in the reverse order, from Z to A. Let's select "Sort A to Z." The names in the column will be sorted from A to Z. The data in the adjacent columns will be automatically reordered to keep their relationship with the data in the sorted column.

You can easily reverse the sort order, by first clicking on the "Sort & Filter" button again. Then simply select "Sort Z to A" from the menu. The names will be sorted from Z to A, and the data in the adjacent columns will be reordered accordingly.

You can sort a column of numbers or dates in the same way. For example, you can sort the numbers in this column, by first selecting one of its cells. As before, click on the "Sort & Filter" button. You can sort numbers from smallest to largest or largest to smallest. Let's select smallest to largest. The numbers will be sorted from smallest to largest.

Now let's sort the dates in this column. Again, select one of the column's cells, and click on the "Sort & Filter" button. You can sort dates from oldest to newest, or newest to oldest. Let's select newest to oldest. The dates will be sorted as you specified.

You can also sort the data in multiple columns at the same time. This is useful if the same entry in one column corresponds to different entries in another column. You can then sort the data in the first column, and sort the corresponding data in the second column, in the desired order as well.

Let's sort the names and test scores at the same time. To sort the data in more than one column, first select a cell in one of the columns. Then click on the "Sort & Filter" button, and select "Custom Sort" from the menu. The "Sort" dialog box will open. The selected cell and all those in its adjacent rows and columns will be highlighted. However, the row containing the column headers won't be selected. By default the "My data has headers" check box is selected, indicating the selected cells have a header row which should not be included in the sort.

NOTES:

You can sort the cells, using the lists in the dialog box. First open the "Sort By" list, under Column. The list displays the column headers. Select the first column you want to sort.

The list under "Sort On," lets you select the parameter based on which the data will be sorted. By default, the data will be sorted based on values. Let's use the default selection. The list under "Order" lets you specify the sort order. Let's sort the data from A to Z.

Now let's specify the sort criteria for the second column. Click on the "Add Level" button. Another set of lists will appear to let you sort the second column. Open the "Then by" list, and select the desired column. As before, let's sort the data based on values, and select the desired sort order.

Once you have entered the desired sort criteria for the columns you want to sort, click on "OK." The data will be sorted as you specified. The names will be sorted, from A to Z, and the scores for each name will be sorted from largest to smallest.

B3.27 Filtering Data

Excel has a "Filter" function that allows you to display only the data that meets certain criteria. You can filter data based on specific information such as dates, text, and numbers.

To filter data, first click on the "Sort & Filter" button, in the "Editing" group of the "Home" tab. Then select "Filter" from the menu. Filter buttons will appear in the column headers. You can use these buttons to filter the data, based on the values in each column.

Let's filter the data based on the text in this column. First, click on the column's filter button. The filter list will open, displaying the data values in the column. By default, all values are selected, indicating they'll be displayed. You can click on the "Select All" checkbox to clear the current selections. Then select the values you want to display, for example these two. Now simply click on "OK." The data will be filtered, displaying only the rows containing the values you selected. The filter results will be displayed in the status bar, and the filter button in the filtered column, will contain a picture of a filter, indicating the column has been filtered.

You can easily remove the filter, by first clicking on the "Sort & Filter" button. Then select "Clear" from the menu. The filter will be removed and all data rows in the worksheet will be displayed.

NOTES:

Now let's filter the data based on the dates in this column. Again, first click on the column's filter button. The filter list will open, displaying a list of dates. As before, click on the "Select All" checkbox to clear the current selections. Then select the desired date, for example this month, and click on OK. The data will be filtered, displaying only the rows containing the month you selected.

You can also filter the data based on values in multiple columns. For example, let's add another filter based on the numbers in this column. Again, click on the column's filter button. The filter list will be displayed. Instead of selecting specific numbers, you can filter based on a range of numbers, by first placing the mouse pointer over "Number Filters." A submenu will open, displaying various number range options. Select the desired option, for example, the "greater than" option. The "Custom AutoFilter" dialog box will open, with the top left list containing the words "is greater than." Simply type in the desired number in the box to the right of the list, and click on "OK." The data will be filtered, displaying only the rows containing the date and numbers you specified.

Once you're done with filtering the data, again click on the "Sort & Filter" button, and click on "Filter" to turn it off. The filter will be cleared, and the filter buttons will be removed from the columns.

B3.29 Print Area

You can set a "Print Area" so that you can quickly print a specific part of the worksheet.

Let's set a "Print Area" in this worksheet, to print these cells. First select the cells. Then click on the "Page Layout" tab, click on the "Print Area" button in the "Page Setup" group, and select "Set Print Area" from the menu. A dashed border will appear around the cells indicating they've been included in the print area. Now if you use the "Quick Print" function to print the worksheet, only the print area will be printed.

You can remove the "Print Area" in order to print the entire worksheet. Again click on the "Print Area" button. Then simply select "Clear Print Area" from the menu. The print area will be removed.

B3.31 Print Scaling

You can scale your worksheet to make it print on a specific number of pages.

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To scale a worksheet, first click on the "Page Layout" tab. The "Scale" box in the "Scale to Fit" group shows the scale used for printing the worksheet. The default scale is 100%. Let's use "Print Preview" to see how the worksheet will be printed with this scale. The worksheet will be displayed as it would appear in print. The current page number and the total number of pages are shown on the window's lower left corner. As you can see, the worksheet will print on 6 pages. You can then exit the Print Preview mode, by clicking on the "Close Print Preview" button.

You can make the worksheet print on fewer pages, by entering a smaller value in the "Scale" box. For example, let's change the scale to 80%. Then press the Enter key. Now if you select "Print Preview," you can see that the worksheet's contents appear smaller, and it will print on 4 pages. Let's exit the Print Preview mode.

You can also make the worksheet fit on a specific number of pages, by selecting the desired number of pages from the "Width" and "Height" lists, in the "Scale to Fit" group. Let's make the worksheet's width fit on 2 pages, and make its height fit on 1 page. Now if you select "Print Preview", you can see that the worksheet will print on 2 pages. Again, let's exit the Print Preview mode.

You can also see how the worksheet will be divided between the pages, by first clicking on the "View" tab. Then click on the "Page Break Preview" button, in the "Workbook Views" group. As you can see, the worksheet's width is divided into 2 pages, and its height fits on 1 page. To go back to the Normal view, simply click on the "Normal" button, in the "Workbook Views" group.

B3.33 Printing Titles and Gridlines

You can make the contents of a worksheet's printout easier to follow, by printing its title cells, on every page. You can also make the printout's contents easier to view by printing the worksheet's gridlines.

Let's set up this worksheet to print with repeating titles and gridlines. First, click on the "Page Layout" tab. Then click on the "Print Titles" button, in the "Page Setup" group. The "Page Setup" dialog box will open, with the "Sheet" panel in front.

You can specify the title rows and columns that you want to repeat on every page using the boxes in the "Print titles" area. To specify the desired rows, first click on the button to the right of the box labeled "Rows to repeat at top." The dialog box will be reduced to a text box, and the pointer will change to a Right arrow. Select the desired row, for example this one, by clicking anywhere

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on it. Then, click on the button to the right of the text box. The whole dialog box will be displayed. The row that you selected will be repeated at the top of every page.

You can specify the desired columns to repeat, by first clicking on the button to the right of the box labeled "Columns to repeat at left." Again, the dialog box will be reduced to a text box, and the pointer will change to a Down arrow. Select the desired column, for example this one, and click on the button to the right of the text box. Again, the whole dialog box will be displayed. The column that you selected will be repeated at the left of every page.

You can also print the worksheet's gridlines by simply turning on the "Gridlines" check box under the "Print" heading.

Once you've specified the desired print settings, click on "OK." Now, if you print the worksheet, the specified title row and column will be printed on every page, and the worksheet's gridlines will also be printed.

B3.35 Creating Charts

You can display a worksheet's data graphically, using a chart. Charts make it easier to compare the data and view its trends.

The main element of a chart is the "Data Series." A data series is a group of data in a row or column presented by a specific graphic. For example, this data series is presented by these bars, and this data series is presented by these bars.

Other standard chart elements include the horizontal axis, which corresponds to the titles of the data, and the vertical axis, which corresponds to the data values. In addition, the chart usually contains "Legends," which identify each of the data series being displayed.

Excel provides various chart types that present data in different ways. The most common chart types include the following:

- the "Column" chart is used for comparing data values.
- the "Bar" chart is also used for comparing data values.
- the "Line" chart is used for showing data changes and trends.
- and the "Pie" chart is used for displaying percentages.

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Let's create a chart using this worksheet's data. First select the cells containing the data you want to display in the chart, for example these cells. Then, click on the "Insert" tab. The available chart types are displayed in the "Charts" group. Select the desired chart type, for example the "Column" chart. A gallery of available forms for the chart type will be shown. Select the desired form, for example this one. The specified chart will be inserted in the worksheet.

When you insert a chart, three tabs labeled "Design", "Layout", and "Format" will be added to the Ribbon. You can use the functions in these tabs to specify various aspects of the chart. By default, the chart's bars represent the data series in the columns. You can make the bars represent the data series in the rows, by simply clicking on the "Switch Row/Column" button, in the "Data" group, of the "Design" tab. The bars will represent the data series in the rows.

You can add a title to the chart, by first clicking on the "Layout" tab. Then click on the "Chart Title" button, in the "Labels" group. A menu will appear to let you select where you want to place the title. Let's place the title above the chart. The "Chart Title" text box will appear above the chart. You can simply type the desired title in this box. Then click outside the box to deselect it.

You can also add a title to the chart's horizontal axis, by first clicking on the "Axis Titles" button, in the "Labels" group. A menu will open to let you select the desired axis. Move the mouse pointer over "Primary Horizontal Axis Title," and select "Title Below Axis" from the submenu. A text box labeled "Axis Title" will appear below the horizontal axis. Enter the desired title in the box. Then click outside it to deselect it.

B3.37 Modifying Charts-Part 1

In this lesson I'll teach you various ways to modify charts. I'll show you how to:

- move charts
- resize charts
- and change chart data

Moving Charts

You can move a chart within the worksheet by simply dragging it to the desired location.

You can also move the chart to another worksheet, by first clicking on the "Move Chart" button, in the "Location" group, of the "Design" tab. The "Move Chart" dialog box will open. The "New sheet" option will create a new worksheet, and move the chart there. The "Object in" option lets

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you display the chart in one of the existing worksheets. By default, the chart is displayed in the current worksheet. Let's use the default option, and click on "OK." Then deselect the chart by clicking anywhere outside it.

Resizing Charts

You can change a chart's size, by first clicking on a blank part of it to select it. A border containing handles for resizing the chart will appear around it. You can drag the side handles to change the chart's width, drag the top or bottom handles to change its height, and drag the corner handles to change both its height and width at the same time.

You can also set the chart's height and width to exact amounts, by first clicking on the "Format" tab. Then enter the desired amounts, in the "Height" and "Width" boxes in the "Size" group. For example, let's enter this height. Then press the Enter key. Also, let's enter this width, and again press the Enter key. The chart's height and width will be set to what you specified. You can then deselect the chart.

Changing Chart Data

You can view the data cells included in the chart by simply selecting it. The cells will be marked. You can then change the data in any of the cells as desired. For example, let's change this cell's data, which is presented by this bar. The bar's height will be automatically adjusted to reflect the change.

You can also add new data to the chart. For example, let's add this data series. Again, first select the chart. Then click on the "Select Data" button in the "Data" group, of the "Design" tab. The "Select Data Source" dialog box will open. Click on the button to the right of the box, labeled "Chart data range." The dialog box will change to a text box. Then select all the data you want to display in the chart, including the data series you want to add, and click on the button to the right of the text box. The whole dialog box will be displayed. Click on the "Ok" button. The data series will be added to the chart.

B3.39 Modifying Charts-Part 2

In this lesson I'll teach you additional ways to modify charts, including how to:

- modify chart elements
- change the chart type
- and change the chart layout and style

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Modifying Chart Elements

You can easily modify various elements of a chart, such as the chart's title, or the bar colors. To change the chart's title, first click on it. A border will appear around the title. You can then edit it as desired, and click outside it to deselect it.

Now, let's change the color of these bars. To change the color of a group of bars, first double click on one of them. Then click on the "Format" tab, and click on the right side of the "Shape Fill" button, in the "Shape Styles" group. A gallery of colors will be displayed. Simply select the desired color, for example this one. The bars will appear in that color. You can then deselect the chart.

You can also modify the color of different parts of the chart's background. For example, you can change the legend's background, by first clicking there. Then click on the right side of the "Shape Fill" button, and select the desired color, for example this one. The legend's background will appear in the color you selected. You can then deselect the legend by clicking outside it. Once you've modified the chart elements as desired, you can deselect the chart itself.

Changing the Chart Type

You can change a chart's type to present its data in a different way. First select the chart. Then click on the "Change Chart Type" button, in the "Type" group, of the "Design" tab. The "Change Chart Type" dialog box will open. The list of chart types is displayed on the left of the dialog box. Select the desired chart type, for example this one. The available forms for that chart type will be displayed on the right. Select the desired form, for example this one. Then click on "OK." The data will be presented, using the chart type you selected.

Changing the chart layout and style

Excel 2007 provides a variety of pre-designed layouts and styles that you can quickly apply to your chart. A layout specifies how the charts titles and legends are displayed within the chart, and a style specifies the color and appearance of the charts data elements.

Let's apply a different layout to this chart. A partial gallery of layouts is displayed in the "Chart Layouts" group, of the "Design" tab. You can view the entire gallery, by clicking on its "More" button, and select the layout you like, for example this one. The chart will appear with the layout you selected.

Now, let's change the chart's style. A partial gallery of styles is displayed in the "Chart Styles" group, of the "Design" tab. Again, click on the gallery's "More" button to display the entire

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gallery, and select the desired style, for example this one. The specified style will be applied to the chart. You can then deselect it.

B3.41 Interpreting Data and Charts

You can draw many logical and useful conclusions from a worksheet's data. For example, if you look at the first quarter sales data in this worksheet, you can see that this salesperson had more sales, than the others. Similarly, if you look at the yearly sales, you can see that this salesperson had more sales, than the others.

If you look at the data more closely, you may also detect a trend. For example, if you look at this salesperson's quarterly sales, you can see that they decreased each quarter.

While you can determine many useful facts and trends from a worksheet's data, you must be careful not to jump to conclusions based on the data. For example, just because this salesperson had the highest total sales, it does not mean she sold the highest number of products. Other factors not represented in the data, such as the price of the products sold may have affected this result. Similarly, because the total sales were the lowest in the second quarter, you should not conclude that the sales team spent less effort in that period. Other factors such as the economy or the weather may have played a role.

You can interpret the worksheet's data more easily by displaying it in a chart. If you look at this column chart, you can easily determine how the salespersons performed relative to each other in each period. For example, you can see that this salesperson had the highest sales in the second quarter, and this one had the highest sales in the third and fourth quarters.

You can also use different chart types to easily view the important information and trends in the data. For example, you can use a "Line" chart to display the sales trends. You can then easily see that this salesperson's numbers steadily went up each quarter. You can also use a "Pie" chart to view the sales percentages, or use a bar chart to compare the sales totals.

Charts can also help you verify that the calculations in the worksheet are correct. For example, if you look at this chart carefully, you'll see that the length of the bar representing the total yearly sales, is almost the same as those representing the quarterly sales. However, you'd normally expect the yearly sales bar to be much longer. This indicates that the total yearly sales calculation is probably incorrect. If you click on the calculation's cell, you'll notice that it contains the "Average" function, instead of the "Sum" function. You can then correct the calculation by simply changing "Average" to "Sum." The chart will be automatically updated to reflect the

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change. Now, the yearly sales bar is much longer than the quarterly sales bars, as you'd expect it to be.

B3.42 RS-Guidelines for Creating Spreadsheets

This reading supplement describes common uses and types of spreadsheets. It also provides guidelines for creating well-organized, easy-to-view spreadsheets. It includes the following topics:

- Uses and Types of Spreadsheets
- And Guidelines for Creating Spreadsheets

Uses and Types of Spreadsheets

Spreadsheets are used for many useful purposes. They are used to manage data, make calculations, create charts and graphs, and analyze data and trends.

- Some of the most common types of spreadsheets include:
 - Budgets used for managing income and expenditures.
 - Time sheets used for tracking employee work hours.
 - Class records used for keeping student scores and averages.
 - Company financial reports used for tracking revenues and profit, and identifying trends.

Guidelines for Creating Spreadsheets

In order to create well-organized, attractive and easy-to-view spreadsheets, you should use the following guidelines:

- Label the data rows and columns with proper headings.
- Organize the data rows and columns logically.
- Add borders and shading to highlight important information.
- Format similar text and data elements consistently.
- Use charts to clearly illustrate data and trends.
- Add descriptive text to identify chart elements.
- Separate groups of data by topic into labeled worksheets.
- Make sure your spreadsheet does not contain any errors.

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B3.44 Unit 3 End

You've reached the end of Unit 3. Here is a summary of what you learned in this unit. You learned how to:

- Wrap text in a cell
- Change the orientation of data in a cell
- Apply borders and shading to cells
- Create styles and apply them to cells
- Insert clip art pictures in a worksheet
- Move and resize pictures in a worksheet
- Add drawings to a worksheet
- Move and resize drawings in a worksheet
- Insert page breaks in a worksheet
- View a worksheet in the Page Break Preview mode
- Add a header and footer to a worksheet
- Hide and unhide rows and columns
- Sort data based on a single or multiple criteria
- Filter data based on different criteria
- Define a print area within a worksheet
- Scale a worksheet to print on a specific number of pages
- Print gridlines and repeating rows and columns
- Create charts based on a worksheet's data
- Modify a chart's type and elements
- Draw conclusions from a worksheet's data and charts
- and Follow proper guidelines for creating spreadsheets

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