

King Fahd University of Petroleum and Minerals
MIS-105--- Introduction to Computer Applications
Lab#2: Introction to Microsoft Excel
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What is a spreadsheet?

A *spreadsheet* is a computerized equivalent of an accountant's ledger. As with the ledger, it consists of a grid of rows and columns that enables you to organize data in a readily understandable format.

Another Example: The Professor's Grade Book

	Test 1	Test 2	Final	Average
Adams	100	90	81	88
Baker	90	76	87	85
Glassman	90	78	78	81
Moldof	60	60	40	50
Walker	80	80	90	85
Class Average	84.0	76.8	75.2	

Figure1

The following figure shows the gradebook as it might appear in a spreadsheet.

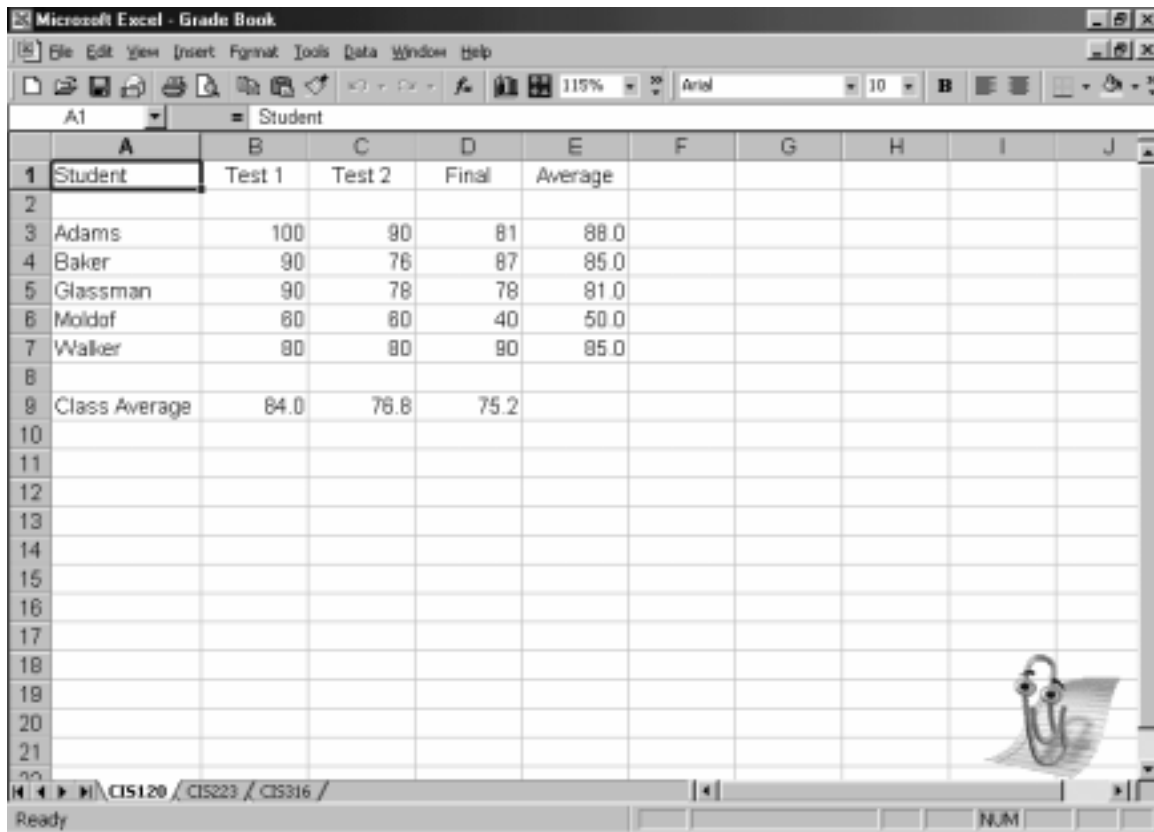


Figure2

Things to Remember:

1. Row and Column Headings

A *spreadsheet* is divided into rows and columns, with each row and column assigned a heading. Rows are given numeric headings ranging from 1 to 65,536, while a max of 256 columns is allowed. The intersection of a row and a column forms a *cell*.

2. Formulas and Constants

A *constant* is an entry that does not change. It may be a number, such as a student's grade on an exam, or it may be a descriptive text (a label), such as student's name.

A *formula* is combination of numeric constants, cell references, arithmetic operators and/or functions.

Note: A formula begins with an equal sign.

Example: $=(B3+C3+D3)/3$

A *formula* may also include a *function*, or a pre-defined computational task, such as the **AVERAGE** function.

The above example can also be replaced by an **AVERAGE** function as:

=AVERAGE(B3:D3)

Note: You can appreciate that the functions are often easier to use than the corresponding formulas.

Introduction to Microsoft Excel

Microsoft Excel is a Windows application which helps you create spreadsheets.

Spreadsheet, worksheet and workbook:

Spreadsheet is a generic term; workbook and worksheet are unique to Excel.

An Excel workbook contains one or more worksheets.

As shown in Figure3, there are these worksheets(CIS120, CIS223, CIS316) in the workbook "Grade Book".

Active cell:

It is a cell surrounded by a heavy black border. Entries are made into the active cell. Formula bar displays the contents of the active cell.

Toolbars:

Excel provides several different ways to accomplish the same task. Commands may be accessed from a *pull-down menu*, from a *shortcut menu* (which is displayed by pointing to an object and clicking the right mouse button, and/or through keyboard equivalents.

Commands can also be executed from one of many toolbars that appear immediately below the menu bar.

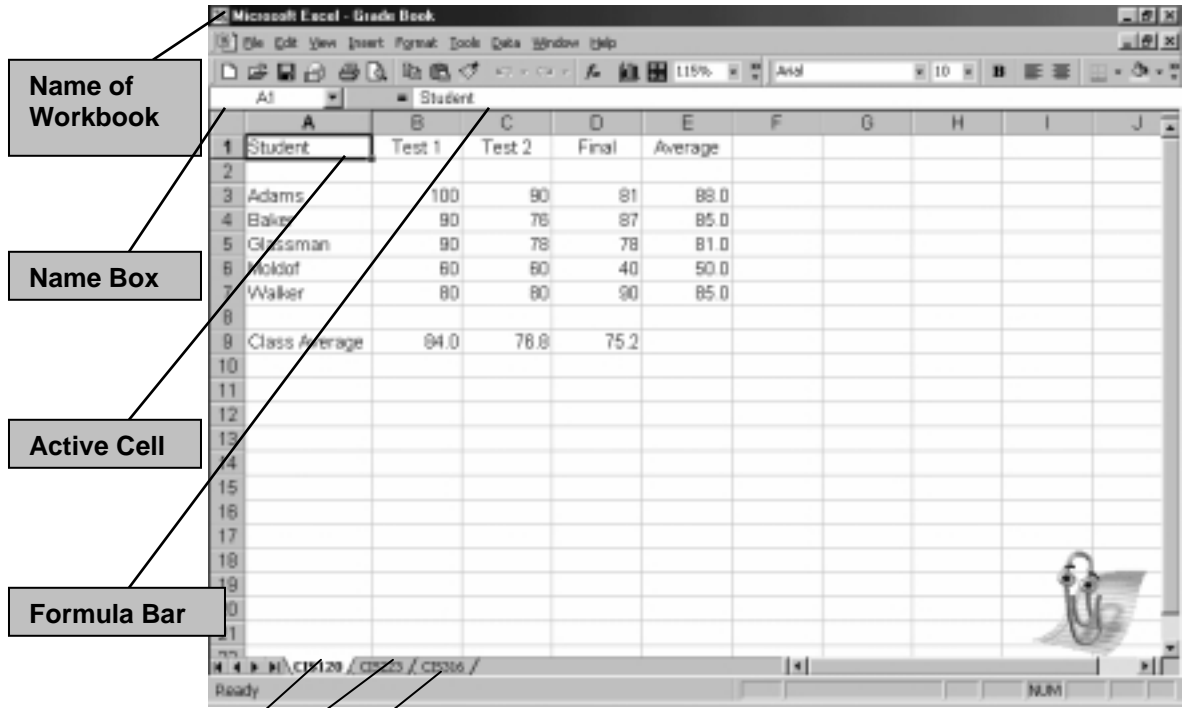


Figure3

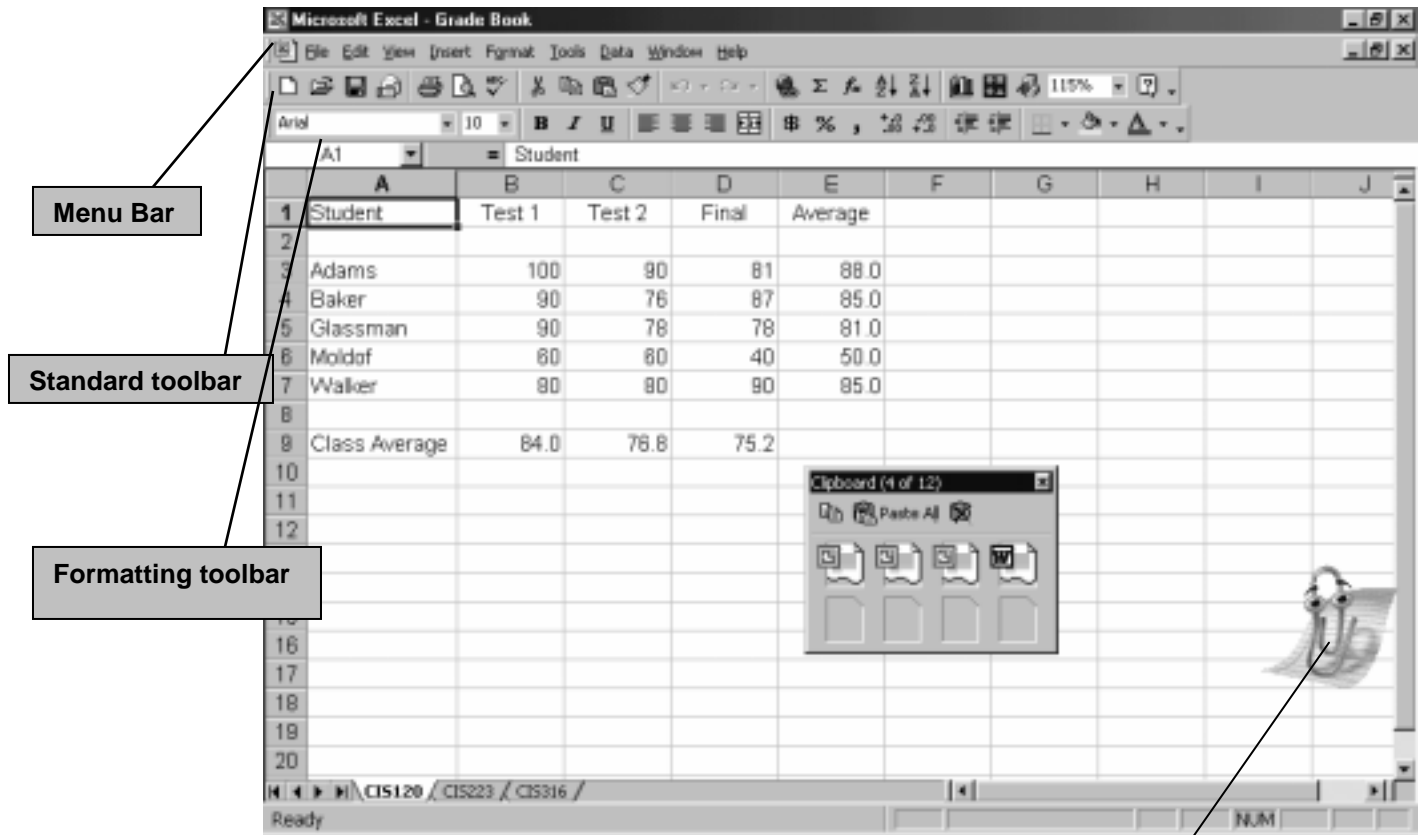


Figure4

Office Assistant

Getting Started with Microsoft Excel

- Click the **start button** to display the Start menu. Click (or point to) the Programs menu, then click **Microsoft Excel** to start the program.
- If necessary, click the **Maximize button** in the application window so that Excel takes the entire desktop.

About the Assistant

The Assistant is very powerful and hence you want to experiment with various ways to use it. To ask a question, click the Assistant's icon to toggle its balloon on or off.

Creating a new worksheet

Enter the values on the newly opened worksheet as they appear in the above figures. Please do not enter the values for class average in **cells B9, C9 and D9** and in the **cells E3 through E7**, as we'll calculate these values using a *formula*.

Entering a formula

- Go to the **cell E3**. You can make this cell active by just click or by using **Tab button** on the keyboard.
- Enter a formula $=\text{(B3+C3+D3)}/3$ in the active **cell E3**. (In the book, the formula used is wrongly printed).
- Now press **enter key**.

Copying the Formula

After you write a formula once, you can copy it to the other cells. This action is called *Formula Copying*. When a formula is copied to another cell, it does not remain the same but adjusted accordingly.

How to copy a formula

- Make the cell active in which you have written the formula for the first time. In our case it is **cell E3**.

This cell is called the *source range*.

The cells you want formula to be copied to is the *destination range*. In our case this range is **cells E4 through E7**.

- Now move the **mouse pointer** to the **lower right corner** of **cell E3** until it converts into a plus sign.
- Press the **left mouse button** and drag it to **cell E7** highlighting **cells E4 to E7** only.

Using a Function

- Click in **cell B9**.
- Type $=\text{AVERAGE(B3:B7)}$ and **press enter**
- Apply the same formula copying procedure from **cells C9 to D9**.

Experiment (What If?)

Click in **cell C4**, the cell containing Baker's grade on the second test. Enter a corrected value of 86 (instead of the previous entry of 76). **Press enter** (or click in another cell).

The effects of this change are observed allover the sheet by an automatic change in the computed value for the Baker's average in cell E4 to 87.5. The class average on the second test in cell C9 changes to 78.8.

Similarly change the Walker's grade on the final from 90 to 100. What automatic changes you observe from this change?

This automatic recalculation to reflect the recent changes on the worksheet is called *What if Analysis*.

The Undo and Redo Commands

The Undo Command lets you undo the last several changes to a workbook.
The Redo command redoes(reverses) the last command that was undone.

Modifying the Worksheet

Deleting/Inserting Rows or Columns

Suppose One student Moldof drops the course for some reason and two new students Coulter and Courier add the course. The implementation of these changes is accomplished through a combination of *Insert Command* (to add individual cells, rows or columns) for the students adding the course and *Delete Command* to remove individual cells, rows or columns for the student dropping the course.

Consider the following updated worksheet.

	Test 1	Test 2	Final	Average
Adams	100	90	81	88.0
Baker	90	86	87	85.0
Coulter	85	95	100	95.0
Courier	75	75	85	80.0
Glassman	90	78	78	81.0
Walker	80	80	100	85.0
Class Average	86.7	84.0	88.5	

Figure5

Inserting a new Row

Make a right click on the row number of the row above which you need to insert a new row.
Click on Insert option.

Deleting a Row

Make a right click on the row number of the row you need to delete.
Click on Delete option.

Now consider the following worksheet.

	Major	Test 1	Test 2	Final	Average
Adams	CIS	100	90	81	88.0
Baker	MKT	90	86	87	85.0
Coulter	ACC	85	95	100	95.0
Courier	FIN	75	75	85	80.0
Glassman	CIS	90	78	78	81.0
Walker	CIS	80	80	100	85.0
Class Average		86.7	84.0	88.5	

Figure6

Inserting a new Column

Make a right click on the column number of the column on the left side of which you need to insert a new column.

Click on Insert option.

Deleting a Column

Make a right click on the column number of the column you need to delete.

Click on Delete option.

The AutoComplete Feature

As soon as you begin typing a label into a cell, Excel searches for and (automatically) displays any other label in that column that matches the letters you typed. It is handy if you want to repeat a label, but it can be distracting if you want to enter a different label that just happens to begin with the same letter. To turn the feature on (off), pull down the Tools menu, click Options, then click the Edit tab. Check (clear) the box to enable the AutoComplete feature.

Displaying the Cell Formulas

Pull down the **Tools menu**. Click **Options** to display the Options dialog box. Click the **View tab**. Check the box for **Formulas**. Click **OK**. (You can also press **Ctrl+ ~** to toggle cell formulas and displayed values.)

If the contents of a cell like long formulas are not completely visible, double click the border between the column headings. This increases the width of that column to accommodate the widest entry in that column.

Find and Replace

Find and Replace is one of the key features of a word processor like MS Word. This feature is also available in MS Excel. Using this feature, you can find/replace text throughout the worksheet.