Unit 1: Introduction to Computer Literacy
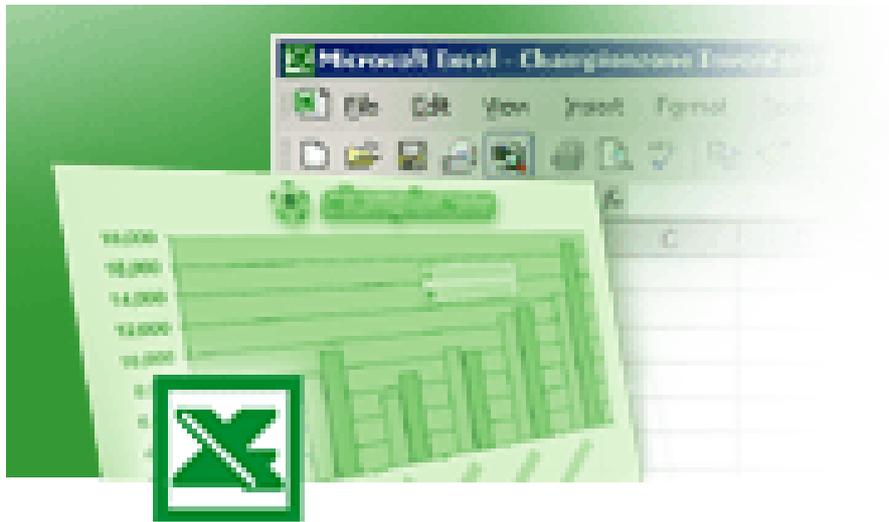
ICT 1.4: Using Microsoft Excel

Student Support Material

Acknowledgements

Unit outline

Unit		Modules
Unit 1 **Introduction to Computer Literacy**	1.1	Computing Basics (Core)
	1.2	Finding Computer Based Information (Core)
	1.3	Using Microsoft Word (Core)
	1.4	**Using Microsoft Excel** **(Core)**
	1.5	Using Microsoft Outlook for email (Optional)
	1.6	Making Presentations Using Microsoft PowerPoint (Optional)

Icons

📖	Read	or	Research
✍	Write	or	Summarise
☞	Activity	or	Discussion
💻	A computer activity		

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Glossary

Cell	A box in a spreadsheet where text, numbers or formulae can be added
Spreadsheet	A program that allows us to input, edit and reproduce text and numbers. In particular it allows us to set up formulas to do calculations on numbers and to present reports as charts Microsoft Excel is a spreadsheet program
Work Book	This is the data file that open when we start Excel
Worksheet	A workbook consists of one or more worksheets that we can link data or have as separate pages in our workbook.

Using Microsoft Excel

What is Microsoft Excel?

Microsoft Excel (or Excel) is an application that allows us to do calculations with numbers and present reports that often contain numbers. Though Excel is an application for working with numbers we can also prepare text in Excel. Excel is referred to as a spreadsheet application. With Excel we can:

- Organize and store data
- Do simple and complex calculations
- Analyze data to understand it
- Format and present reports

Once a structure is set up, with formulas Excel allows us to do calculations for us when we input new data into the spreadsheet. With Excel we can present data in graphs, charts and tables and we can take information from Excel and easily place it into a MSWord document. We will use our project to learn about some of the things that we can do with Excel.

Starting up Excel

You will need to work with your computer for the following exercises

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🖳   1.4 Computer Activity One

1. You already know how to turn the computer on. If your computer is not on then start it up now
2. We can start up MSExcel in several ways. One way is to double click on the MSExcel icon on the desktop. Another way is to start MSExcel from the program files in the Start Menu. Start MSExcel now.
3. You should get a screen that looks a little like the one on the next page. Don't worry if yours is a little bit different

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What we have on the Excel screen is what looks like a table with rows and columns. This screen is called a Workbook and the columns and rows that we see are a Worksheet. On the example above there are three Worksheets (Sheet 1, Sheet 2, and Sheet 3) as indicated by the small tabs on the bottom of the page. The rows of each sheet are numbered 1,2,3,4,….. etc while the columns are lettered A,B,C,D,….etc. Where a row and a column meet we have a little box, which is called a cell. In the following screen example where row 6 and column D meet the cell is highlighted and the column D and row 6 headers are highlighted. You will also note that there is a little box on the tool bar that has D6 in it. This is called the **name box** and names the current cell selected.
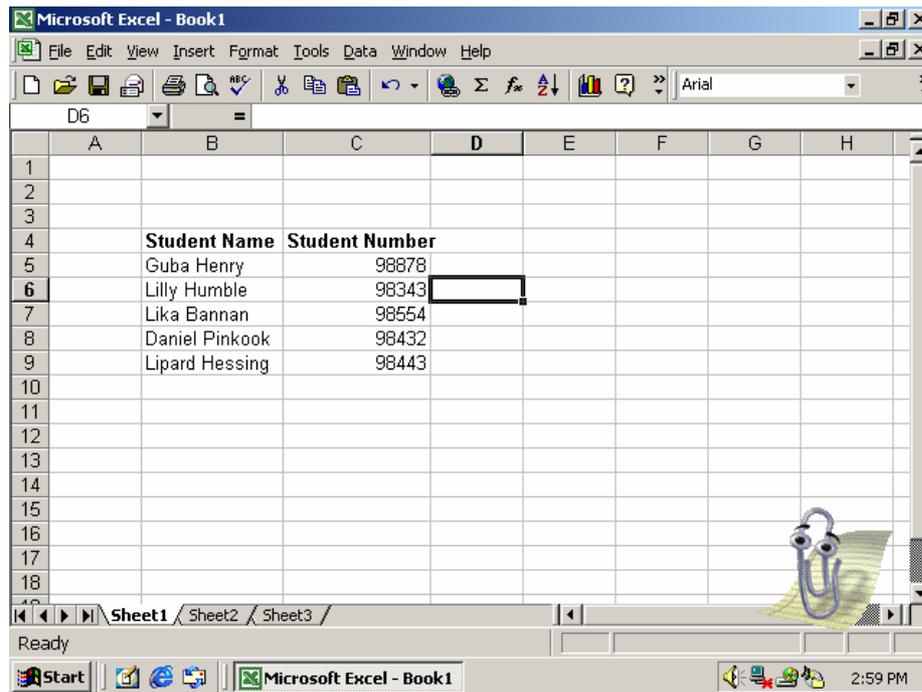

Figure 1: Typing text and numbers into a spreadsheet

Moving around a worksheet

There are a number of ways to move around in a worksheet. To move within a worksheet you can:

- To select any cell, click it. For example, click cell **A1**.
- To move one cell to the right, press TAB, or to move one cell to the left, press SHIFT+TAB.
- To move one cell down, right, up, or left, use the arrow keys.
- To move to the uppermost-left cell, **A1**; press CTRL+HOME.
- To move to any cell, on the **Edit** Menu, click **Go To** and then type any cell number (for example, J18).
- To move down in the worksheet, press PAGE DOWN.
- To move up in the worksheet, press PAGE UP.
- To move to the first column of the worksheet, press HOME.

To move to another sheet within a workbook click on the tab for the sheet you want to move to.

Creating a worksheet

A worksheet is an effective tool for keeping track of all sorts of data. Creating a worksheet can help you easily manage information. Let us look at an example. Imagine that our College has a shop and we want to see how many soft drinks are sold in a month. We collect the data for a month and make up a table like the one below.

	January
Coke	89
Orange Fanta	56
Pineapple Fanta	26
Lemonaide	19
Totals	190

Now let us create an excel worksheet with this data

🖳   1.4 Computer Activity Two
Creating a new worksheet

1.   Open Microsoft Excel 2000. A new workbook opens.
2.   At the top of the worksheet, right-click the A (column header) and click Format Cells.
3.   On the Number tab in the Category box, click Text and then click OK. This column will list our drink types which are words
4.   Click cell B1. Type **January** – this will be our month column
5.   Click on cell A2. Type **Coke**
6.   Use the down arrow to move to cell A3 and type **Orange Fanta**
7.   Keep moving down a cell and input the other drinks just like in our table above
8.   Leave a cell space after A5 and type **Totals** in A6
9.   **Don't forget** to save your work in your 'My Documents' folder. You can name it ExcelEx1

We should now have a worksheet that looks like the following:

	A	B	C
1		January	
2	Coke	89	
3	Orange Fanta	56	
4	Pineapple Fanta	26	
5	Lemonaide	19	
6			
7	Totals		
8			

Figure 2: A spreadsheet for soft drink sales

Doing calculations

What we have done so far is to put some data or information into our worksheet. Now we will look at how we can do some calculations of that data.

1.4 Computer Activity Three
Doing calculations

Let us set up our worksheet to calculate the total of soft drink sold in January

1.   We want our total to appear in our total box (B7) so click in that box
2.   Place your curse in the formulae box and type an '=' sign (underneath the '+' sign on your keyboard)
3.   Now type 'B2+B3+B4+B5'. This will now make the contents of our totals cell (B7) equal to the contents of B2 to B5 added together. You should see 190 displayed in the totals box.
4.   Another way to do this is to select the total cell (B7) and then type in the formulae box =SUM(B2:B6). This means that the value of B7 is equal to the sum of the values in B2 to B6
5.   A final and easiest way to do this is to select the total cell (B7) and click on the *fx* symbol next to the formulae box. A dialogue window will appear with a list of formulas that you can use. Select SUM then check the default range of cells to be summed that appear in the window
6.   Once we have a formula in place, if we change one or more of the values in the selected range of cell, so the result in the **result cell** (in our case B7) will change. Try this, make the number of Coke 52 and see what happens to the total result in B7
7.   When you are happy with your work then __don't forget to save it!__

Making a chart in Excel

Excel allows us the present our data as a worksheet, which is what we did in the example above. However, Excel also allows us to present information in charts and graphs. Next, we will prepare a simple graph of our soft drink sales from our shop

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1.4 Computer Activity Four
Making a chart from a worksheet table

1.   Open your ExcelEx1 worksheet if it is not still open
2.   Using your mouse and the left button select all the cells between A1 and B5. It should look like the picture here.
3.   Make sure you **have not** selected the Totals Column
4.   Now select the Chart Wizard tool
5.   The Chart Wizard dialogue box will appear as in the example on the next page

	A	B
1		January
2	Coke	89
3	Orange Fanta	56
4	Pineapple Fanta	26
5	Lemonaide	19
6		
7	Totals	190
8		
9		

Figure 3: Highlighting cells

6.   The Chart Wizard has many ways of presenting our data as charts and graphs. You can experiment with some of these later but now we will just select a standard column graph.

7.   Click **Next** until you come to finish

8.   A column graph of our data will be on your worksheet page as an object on top of the worksheet. You can select this object and move it or even copy it into a Word document

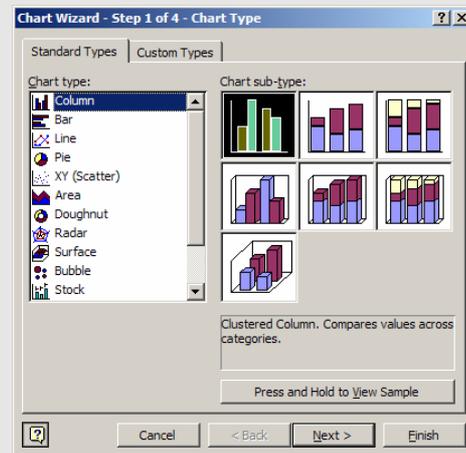9.   Your chart should look like the following
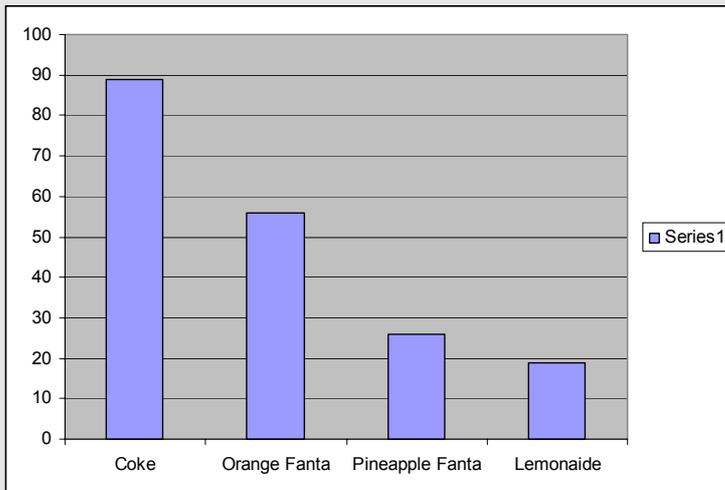

Figure 4: The Chart Wizard

Figure 5: The finished Chart

Some more calculations

1.4 Computer Activity Five
Further calculations

Let us set up some more data in our worksheet to calculate the total of soft drink sold for the whole year.

1.   Type in C1 'February', D1 'March', E1 'April' etc…, to 'December' in M1
2.   Select our total of January cell (B7)
3.   Use the Edit menu to Copy the formulae in B7
4.   Now, Select the cells C7 to M7 by first selecting C7 and while holding down the left click mouse button move the mouse to M7 and then let go of the button. You will notice that the whole selected section of cells becomes highlighted (make sure you only select these cells, if you make a mistake do it again.
5.   Now use the Edit menu to Paste

6.   You should now have a '0' in each of the cells that are now our totals. Select one of these cells, say April (E7), you should now have in the formulae box for that cell **=SUM(E2:E6).** Notice that Excel has automatically re allocated the correct cell to get a total for each of our columns.
7.   You can test the calculations and input data for each of the months and you will see the totals automatically calculated.
8.   We can do a calculation for the total amount of soft drinks sold. To do this let us select a new cell (M9) and type the text 'Total' in it.
9.   Now select Cell N9 and type in it =SUM(B7:M7). This will total all the monthly totals

You might end up with something like the table below (I have abbreviated the month headings)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
2	Coke	89	120	130	125	142	90	110	140	145	120	97	40	
3	Orange Fanta	56	72	66	72	63	45	60	75	80	72	67	15	
4	Pineapple Fanta	26	15	30	44	21	33	76	88	91	67	75	8	
5	Lemonaide	19	45	60	61	20	16	30	32	44	19	22	3	
6														
7	Totals	190	252	286	302	246	184	276	335	360	278	261	66	
8														
9	Grand total													3036
10														

Figure 6: The finished spreadsheet

Adding a graph to our project

We can think about how we might use Excel to add a graph to our project.

1.4 Computer Activity Six
Adding a graph to our project

We are going to construct a table of the rural/urban population of Indonesia over some years. We have helped you to do this by preparing the basic spreadsheet for you.

Open the Excel worksheet titled **Indonesian table** and type the following information into the worksheet **or open** the file excel Indonesia project (check with your lecturer)

Urban/Rural Population of Indonesia Population (in thousands)

Year	Urban	Rural
1960	14030	82164
1965	16902	90139
1970	20534	99746
1975	26259	109407
1980	33514	117444
1985	42390	124942
1990	53060	131223
1995	65539	135938
2000	79485	138513
2010	109107	136180
2020	141598	129566

1.   Now use the chart wizard to produce a graph. This time choose a line graph
2.   When you have finished with the wizard copy the graph and paste it into your Project report

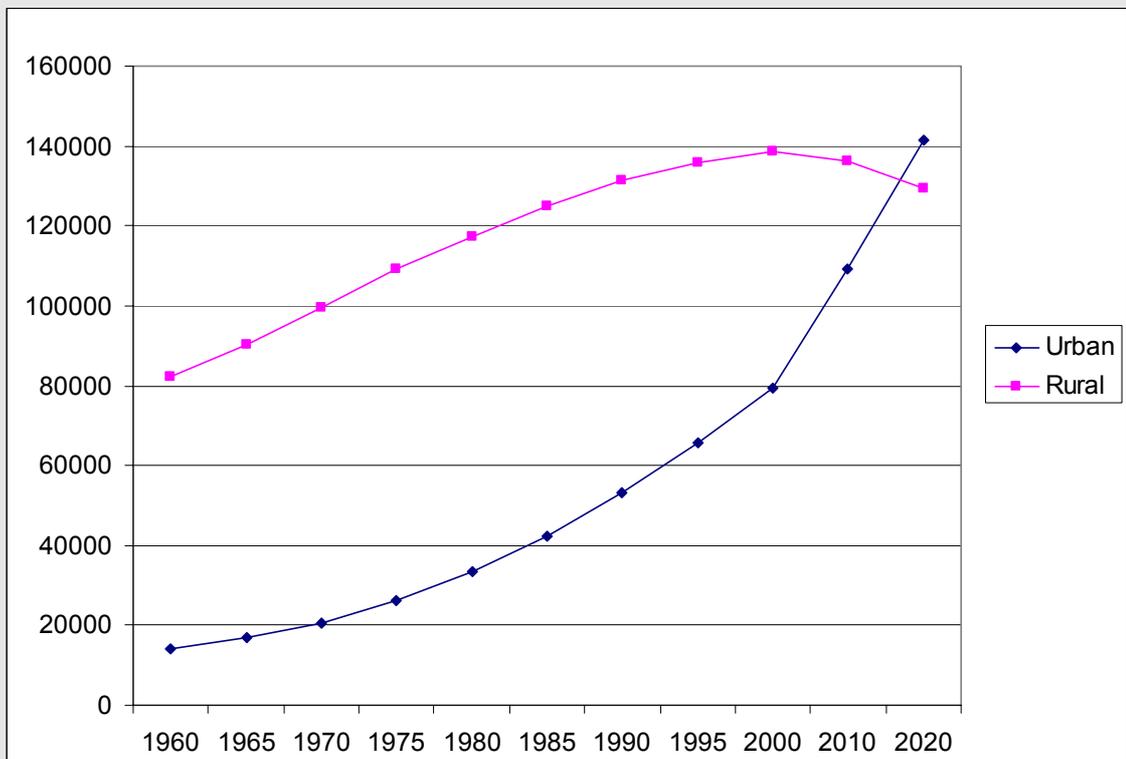The finished chart should look like this

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Figure 7: Rural and urban population growth in Indonesia

The features of Excel

Here is a summary of the features and commands of Excel

Use these buttons to add Web links, calculate an AutoSum, add formulas, and sort data.

The Chart Wizard helps you create charts.

The Drawing Tool helps you create WordArt and add shapes to worksheets.

Merges selected cells and then centers text in the cell.

Use these buttons to format numerical data.

The Excel 2000 Standard and Formatting toolbars includes buttons for formatting data and cells.

The Name box indicates which cell is selected.

The Formula box shows the data in the cell.

Column and Row numbers make it easier to know where you are on the worksheet.

Use these buttons to keep track of worksheets in a workbook. Click the Sheet buttons to move from one worksheet to another.

Microsoft Excel - StudentRecords.xls

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Attendance SheetPeriod 3

7-Sep   8-Sep   9-Sep   10-Sep   13-Sep   14-Sep   15-S

	Student Name	Student Number
9	Jane Adams	06574
10	Joe Bennet	06482

Sheet1 Chart1 Sheet2 Sheet3

Ready