Contents

Desktop layout

Items on your desk, including equipment and resources, should be arranged within easy reach.

Your desk area can be divided into three zones:

- the optimum reach zone – the area closest to you, where your hands operate most of the time
- the maximum reach zone – further away, but still close enough to reach comfortably
- the outer reach zone – where you may have to bend forward or stand to reach items.

Make sure your desk is organised so that frequently used objects, such as your keyboard, are close to you. Intermittently used objects, such as your phone, should be out of the way but still within easy reach. Other resources used less frequently, such as in- and out-trays, should be in the outer reach zone.

Adjust your equipment and posture

When your posture is poor, you may suffer from aches and pains. Spending a long time in the same position can put stress on your body and this can be made worse if you are in an uncomfortable or poorly supported position. These symptoms may start out very slight, but if you continue to use poor posture they may get worse and become intolerable. They may result in cumulative stress given the constant stress on your muscles, nerves or tendons. When setting up your workstation, you need to make sure your posture will not cause you pain or discomfort. The equipment you use needs to be adjusted to suit your body shape and size, and the tasks you are doing.

You have already looked at adjusting your screen and chair. There are other office tools that can help your posture. These include the following items.

Footrests	Headsets
A footrest may be necessary if you can't place your feet comfortably on the floor. Footrests allow your feet to rest at the correct height and on a tilting angle, which prevents strain on the lower back.	If you use a telephone for long periods of time, it is a good idea to use a headset. A headset will keep your neck straight and your arms free. Headsets prevent you from bending your neck to support the telephone handpiece.

Minimise energy use

Wasting energy also costs organisations and the planet a great deal. Many organisations have developed policies and procedures to save energy. These include:

- providing training programs on smart energy practices so that employees can practise energy efficiency
- turning off equipment when not in use
- using power-save functions for equipment
- refilling toner and ink cartridges from printers.

Resource conservation

Here are some tips for practising conservation.

Resource conservation tips
• Use the power-save function on printers when they are not in use. • Print and copy on both sides of the page, where possible. • Use recycled paper (paper used on one side) in the photocopier and printer for rough drafts. • Use recycled paper for telephone messages. • Place a recycling bin near the photocopier.

Practice task 2

1. List three policies developed to minimise paper wastage at your organisation, or one you are familiar with.

2. List three policies or procedures developed to minimise energy use at your organisation, or one you are familiar with.

	A	B	C	D	E
1					
2			Current clothing label		
3					
4	Month	Income	Expenses	Profit	Clear profit
5	January	5000	1222		
6	February	43543	500		
7	March	3454	324		
8	April	4500	400		
9	May	4500	300		
10	June	55000	3454		
11	July	43543	4322		
12	August	3454	543		
13	September	3453	2342		
14	October	32552	343		
15	November	39800	2234		
16	December	34000	100		

Alter data

Once you have entered data, you may have to alter it to correct errors or update it for changing organisational requirements. You can alter the information in a cell by selecting the cell and directly entering the new information, or by using the Formula Bar:

- Click in the E4 cell Clear Profit. This cell is now current.
- This cell's content will be displayed on the Formula Bar.
- Click on the Formula Bar to select it, or press the **F2** key on the keyboard. Change the word 'Clear' to 'End'.
- Press **Enter** or click the **Enter** tick ✕ ✓ on the Formula Bar to confirm the change.
- Select one of the numbers you have entered in the Income column. Press the **Delete** key to delete the information. Retype a new number.
- Save your changes and close your worksheet.

Select cells

Once you have entered data into a worksheet, you will need to select data in order to format it or perform calculations. You may need to select some or all of the data on a worksheet. When data is selected, it is highlighted on the screen. The following information describes a number of techniques for selecting cells.

Topic 2
Create simple spreadsheets

Producing a spreadsheet means creating it and having it ready for your colleagues or supervisor to read. When producing spreadsheets, you need to check the data you have entered for errors and make sure the content and format suit your organisation's requirements. For example, you may need to proofread the data manually or use the spellchecker installed in the software you use.

If you have been asked to produce a spreadsheet, be aware of when the spreadsheet is needed, so you can have it completed on time.

If you experience difficulties when producing a spreadsheet, you need to know where to go for help; for example, you could use a paper-based manual or go online. You should know which websites have up-to-date information about the software you are using.

In this topic you will learn how to:

2A   Enter, check and amend data while maintaining consistency of design and layout
2B   Use software functions to format spreadsheets
2C   Use and test formulas to confirm output meets task requirements
2D   Overcome problems with spreadsheet design and production

To check errors in labels, you can use the **Spelling** function ~Spelling~ under the **Review** tab. This will pick up words you have misspelt, but will not help you with product names or customer names and addresses. The function will also not help where a word is spelt correctly but is the wrong word; for example, 'they're' instead of 'their'.

Make sure you manually check your spelling and cross-check it with any documentation you used to enter the data. For example, you may have been given a printout of all customer names that were to be entered. Once you have entered the customer names, check them for accuracy against the printout.

Validation rules

When creating a worksheet, you can add validation rules in cells to ensure that anyone else who adds data has to make entries in the correct format.

For example, you may want only numbers or dates to be entered into certain cells. To do this, you need to set validation rules in your worksheet.

Example: set validation rules

Follow these steps to set validation rules.

1. Open an Excel worksheet. Look at the following sample and enter the same data into your worksheet. This worksheet is to record product codes that have one letter and two digits. The month columns record the units of products sold in that month. Save the worksheet as 'Validation rules'.

	A	B	C	D	E	F
1						
2			Product Codes			
3						
4	Code	January	February	March	April	May
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

... continued

2. Look at these examples of a worksheet and documentation used to enter data.

Customer accounts worksheet

	A	B	C	D
1			Custoemr Accouints	
2				
3	Customers	Balance	10% Interest	New Balance
4	Smithe	$5,500.00	$550.00	$6,050.00
5	Cartter	$4,000.00	$400.00	$4,400.00
6	Andrew	$3,450.00	$345.00	$3,795.00
7	Philips	$300.00	$30.00	$300.00
8	Elliott	$2,500.00	$250.00	$2,750.00
9	Frank	$500.00	$50.00	$550.00
10	Luiee	$34.00	$3.40	$37.40

Customer documentation

Customers	Balance
Smith	55.00
Carter	4,000.00
Andrews	3,455.00
Phillips	3,000.00
Elliot	2,500.00
Franks	5,000.00
Luie	34.00

Cross-reference the worksheet with the customer documentation. Count how many errors there are in the worksheet.

3. What should customer Smith's new balance be?

4. Recreate the 'Customer accounts' worksheet with accurate information.

5. Select cells B5 to F15 from the 'Validation rules' worksheet from the previous example. This covers all the values to be entered under the five months. Add a validation rule to these cells that ensures only numbers can be entered into them. Write an error message to help colleagues if they try to enter the wrong data. Test your validation rule to make sure it works.

Example: alignment of a spreadsheet

The default alignment for printing a spreadsheet is that the data is aligned to the left and top of the page in line with the margins. In many cases, especially in smaller reports, it is preferable to centre the data on the page both vertically and horizontally.

To do this, first preview the spreadsheet to check what the information will look like before it is printed out.

1. To preview, select **Print** from the **File** tab.

2. Select the **Page Layout** tab.

3. Select the **Margins** drop-down menu, then select **Custom Margins**.
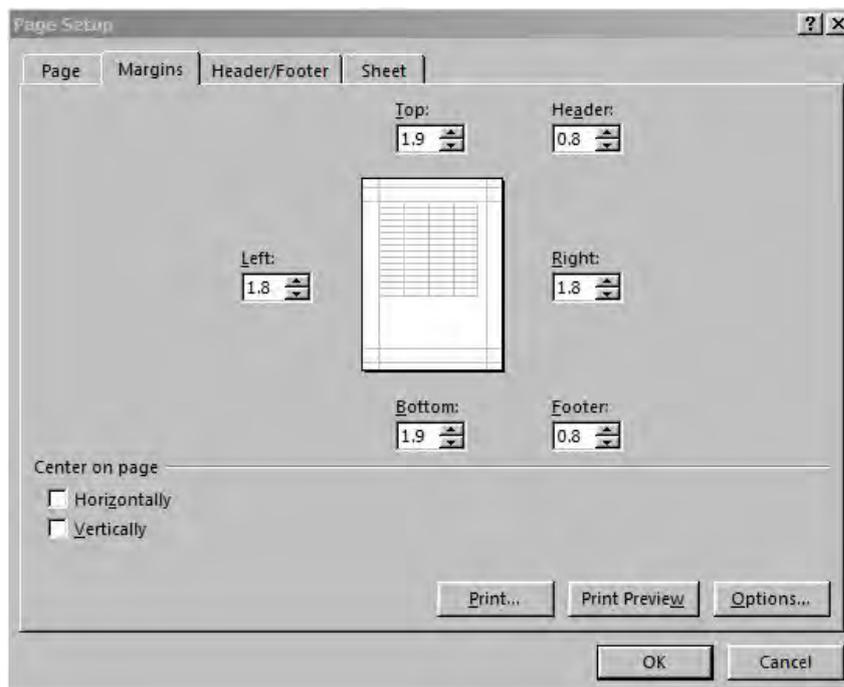
4. Check the options to centre on the page – both horizontally and vertically. The display in the dialog box shows how the changes will appear in the spreadsheet. Select **OK**. When printed, the data will now be aligned vertically and horizontally on the page.

... continued

5. Select Garamond, Bold Italic, 18. Click **OK**.

6. Select cells A4 to F4. This should cover all the headings of your columns.

7. Using the **Font** tools, change the font selections. Select Garamond, Bold, 14.

8. Select cells A5 to A16. This should cover all the month labels.

9. Using the **Font** tools, change the font selections. Select Garamond, Bold, 12. Click **OK**.

10. The worksheet should now look like the following example. Adjust the column widths to suit the formatting.

Current clothing label

Month	Income	Expenses	Profit	Tax	End profit
January	5000	1222			
February	43543	500			
March	3454	324			
April	4500	400			
May	4500	300			
June	55000	3454			
July	43543	4322			
August	3454	543			
September	3453	2342			
October	32552	343			
November	39800	2234			
December	34000	100			

Example: format values

Earlier you learnt that a number entered into a cell is called a value.

The following steps show how to format values:

1. Open the 'Current clothing' worksheet.

2. Select cells B5 to F16. This will select all the cells where values have been inputted.

3. From the **Home** tab, select **Number** to access the **Format Cells** dialog box.
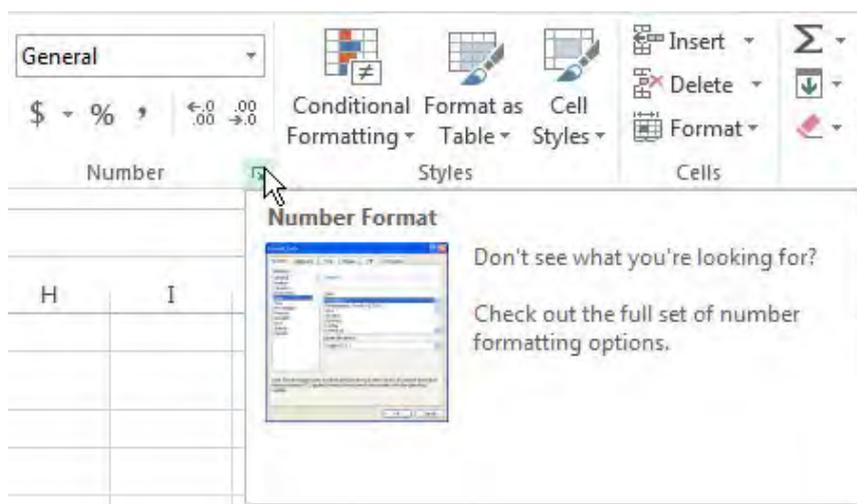
... continued

2. Create this spreadsheet, which provides a summary of sales results for sales consultants at 'Henry Lewis Consulting & Co'. Then complete the tasks that follow.

	A	B	C	D	E	F	G
1			Henry Lewis Consulting & Co				
2			Sales results				
3							
4				Sales Consultant			
5	Month	Hannah	Joe	Fredrick	Simon	Carolyn	Nim
6	January	12334	12324	5334	45434	2421	1232
7	February	34543	23466	5456	12334	1243	1245
8	March	3457	345	3432	23464	3434	4365
9	April	34534	7767	2323	23662	23534	2341
10	May	2367	34555	65655	25656	45634	5456
11	June	88989	23424	66434	76743	2342	7675
12	July	433	23477	2454	13123	53435	4563
13	August	5678	23244	2342	45536	23423	3245
14	September	7678	23411	11230	32111	23442	2342
15	October	4564	667	12311	634	23665	23231
16	November	7676	2234	12345	23412	6574	12353
17	December	8909	23435	12331	23234	4357	23210

- Use **Fill** to create the list of months.
- Alter the December figures as follows:
  - Hannah: 5909
  - Joe: 2343
  - Fredrick: 1231
  - Simon: 2324
  - Carolyn: 4358
  - Nim: 13210
- Save the document and name it 'Henry Lewis – sales results'.
- Practise using the alignment tools to adjust how the data sits within the cells – alter the width and height of columns and rows to see how using the alignment tools alters the viewed data.
- Use the **Merge & Centre** tool to create headings for the spreadsheet.
- Centre the data on the page both horizontally and vertically.
- **Print Preview** the report.
- Change the orientation from portrait to landscape.
- **Preview** the report.
- In a new column labelled 'Summary monthly totals', calculate the total sales figures for each month. For example: =B6+C6+D6+E6+F6+G6. (Make sure you use the mouse to point and select each cell reference.)
- Manually check the calculations using a calculator.
- Change the font type to Arial 14 point (pt).
- Bold the heading and the summary monthly totals.

Simple functions

Functions can be used in Excel to perform a variety of mathematical, statistical and financial calculations. As well as adding up values, functions can also determine values such as the maximum, minimum or average from a range of cells.

Look at the following information about Excel functions.

=SUM(range)

This adds the values specified within the brackets.

=MAX(range)

This returns the highest value from the values specified within the brackets.

=MIN(range)

This returns the lowest value from the values specified within the brackets.

=AVERAGE(range)

This returns the average value calculated using the values specified within the brackets.

=COUNT(range)

This counts the number of items in the range.

=NOW()

This inserts the current time and date.

=RAND()

This inserts a random number between 0 and 1.

Formula auditing tools

Formula Auditing tools are located under the **Formulas** tab. They are useful when you are investigating errors and working out how to fix them.

Of particular use is the **Show Formulas** tool, which changes the view so you can reveal or hide all the formulas in the spreadsheet.

Another useful tool is the **Trace Precedents** tool, which shows where the data in the calculations comes from. To use this tool, you first need to select the cell that contains the error and then select **Trace Precedents**. The spreadsheet will show preceding connections, as per the following example:

Check calculations

As discussed earlier, it is important that you also undertake manual checks as necessary. This means checking values against the original data, using a calculator to verify results and discussing problems and calculations with colleagues and supervisors.

The case study in Practice task 6 shows how important it is to check your calculations. You should also consult your supervisor or manager about the calculations and results your spreadsheet has recorded.

Task requirements

Most organisations have developed policies and procedures for how reports are to be presented. Paying attention to the presentation of your document will enhance the reader's ability to understand it.

It is also important to ensure that the contents of any reports you are producing are accurate.

As part of the production process, it is necessary to check all information, including:

- names, addresses and phone numbers
- product information and pricing
- dates
- reference details (such as customer number, product code)
- spelling
- figures and calculations
- document-specific facts (such as summary totals, highlighted information for action or review).

Use training booklets

There are many ways to learn about computer functions and software packages. You may go to a training course to learn a particular computer function or a supplier may instruct you in the use of a piece of equipment. You may receive training when you start a new job.

Training courses usually provide a comprehensive set of instructions or notes that are worth keeping for future reference.

Practice task 7

Read the case study, then answer the questions that follow.

Case study

Chinh works as an administrative assistant in a small manufacturing organisation. One of his tasks is to create Excel spreadsheets for his supervisor.

When creating spreadsheets, Chinh often needs to use Excel **Help** to answer questions about software functionality. If he is unsure of a screen icon's function, he points to the icon with his mouse and reads the Help bubble.

Recently Chinh attended a two-day Excel training course at a local community centre. He kept the training booklet given out and stores it on his bookshelf. It has a handy index at the back for quick solutions to problems. He has also photocopied pages from various manuals he has found around the office and placed them in a Help folder on his desk.

Sometimes Chinh experiences software function problems that cannot be solved using Excel **Help**. He then uses Microsoft's support website to find a solution or refers to the paper-based material he has gathered.

1. If Chinh experiences software functionality problems, where does he go for help?

2. Describe how Chinh uses paper-based manuals for help.

3. If you experience a software problem when creating a spreadsheet, describe the steps you should take to solve the problem.

Part C

Recreate the following 'Staff Salaries' spreadsheet by entering the data into each cell. The 'Hourly Rate' is how much each person is paid per hour and the 'Weekly Hours' are how many hours are worked per week. Use Excel **Help** facilities to assist you, as needed, to produce the spreadsheet.
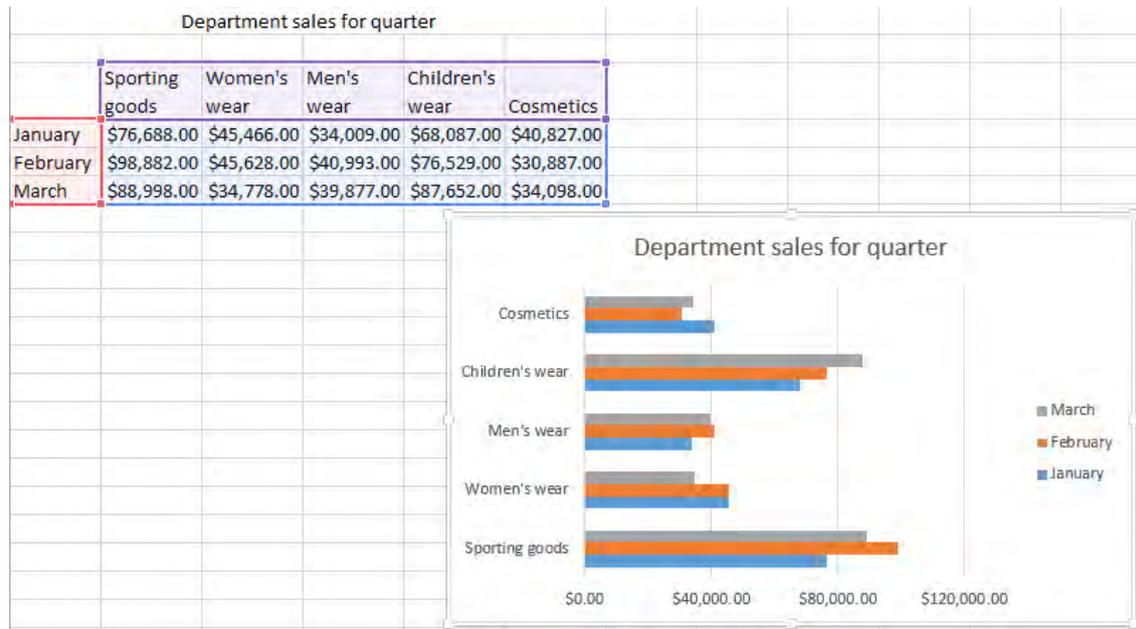
	A	B	C	D	E	F
1						
2			Staff Salaries			
3						
4		Hourly Rate	Weekly Hours	Salary	Salary Rise	New Salary
5	Joanne	25	40			
6	Peter	20	35			
7	Chong	24	40			
8	Rose	28	30			
9	Dylan	18	25			
10	Sienna	35	40			
11	Dan	40	40			
12	Brooke	25	35			
13	Mark	23	25			
14						
15	Total Salaries					

- Format all the labels so they are Arial, Bold, 10. Add a pale colour to all the cells with labels. Add a border to the cells 'Staff Salaries' and 'Total Salaries'.

- Use a calculator to work out how much salary Joanne will receive. In D5, write a formula that calculates Joanne's salary. Make sure your formula gives the same results as your calculation. Use **Fill** to add the values for the remaining salaries.

- All staff are going to receive a salary raise of 15 per cent per week. The 'Salary Rise' column is going to show 15 per cent of the values in the Salary column. Use a calculator to work out 15 per cent of Joanne's salary. In E5, write a formula that calculates 15 per cent of Joanne's salary. Make sure your formula gives the same results as your calculation. Use **Fill** to add the values for the remaining salaries.

- The 'New Salary' column is going to hold the value of the 'Salary' and 'Salary Rise' columns added together. Use a calculator to add up Joanne's new salary. In F5, write a formula that adds up Joanne's new salary. Make sure your formula gives the same results as your calculation. Use **Fill** to add the values for the remaining salaries.

- The value in B15 is going to contain all the 'New Salary' values. Using a calculator, add up all the new salaries. In B15, write a function within a formula to add up all the 'New Salary' values. Make sure your formula gives the same results as your calculation. Make the cell reference of B15 absolute.

- **Print Preview** your spreadsheet. Adjust the alignments of your labels and values until you are satisfied. Print out your spreadsheet.

Bar chart

A bar chart displays information as a series of horizontal bars. These charts are useful for comparing data arranged in columns or rows. Bar charts show the differences between individual items.

The following example shows how monthly sales vary for different departments of a retail outlet.

	Sporting goods	Women's wear	Men's wear	Children's wear	Cosmetics
January	$76,688.00	$45,466.00	$34,009.00	$68,087.00	$40,827.00
February	$98,882.00	$45,628.00	$40,993.00	$76,529.00	$30,887.00
March	$88,998.00	$34,778.00	$39,877.00	$87,652.00	$34,098.00

Stacked bar chart

Use a stacked bar chart to compare the values of individual totals to a total across categories.

The following example compares monthly department sales figures, as well as the total overall amount.
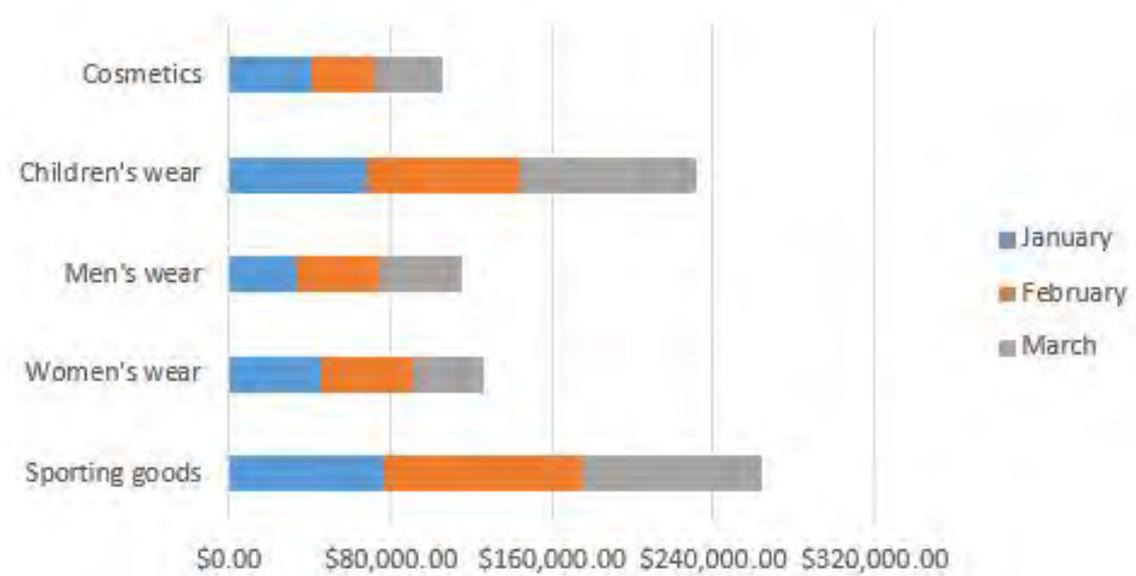
3C | Use formatting features to modify the chart type and layout

After you insert a chart into your worksheet, you will notice that two new tabs appear when you click the chart: **Design** and **Format**. The **Layout** tools also appear next to the chart.
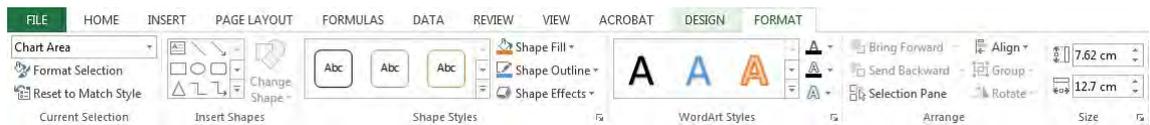

Chart tools

Design tools enable you to change the type of chart selected, choose the style and layout, alternate the view of data between row or column, and check or adjust the data selected.

Formatting tools enable you to alter the general appearance of the chart such as colour, font type and font size.

The data table is the data contained in the spreadsheet that the chart draws its information from.

Layout tools enable you to add to and adjust the appearance of the chart by adding titles, labels, gridlines and so forth.

Print Preview

The following steps show how to preview your work in Excel.

1. To preview your spreadsheet or chart, select the **File** tab FILE , then **Print**.

2. The preview of the job will appear to the right of your screen and look similar to the following example:

Be careful when selecting multiple worksheets. If you have a number of worksheets active at one time, any data that you alter and input will be repeated on all of the selected worksheets. To deactivate multiple selected worksheets, simply click on one worksheet name. This will then become the active worksheet.

Enhance speed and accuracy

When producing reports and charts in Excel, it is important that you undertake tasks in a timely and efficient manner. Keeping to time lines is one aspect; another is using the software appropriately and efficiently to save time and ensure the accuracy of data.

Use shortcut menus (right-click mouse button) to bring up quick commands for undertaking actions. Use shortcut keys to undertake actions quickly (for example, **Ctrl X** to cut, **Ctrl V** to paste). Familiarise yourself with the tools available in the ribbons and the groups of tools under each tab. If you think there should be an easier way of doing something, there probably is. Search the Excel **Help** facility for assistance.

Use the numeric keypad on your keyboard for data entry of values. Although Excel is mainly used for entry of numbers, learning to improve your typing speed and accuracy can help. Learning to touch-type may be a way to improve your typing speed.

Organisational time lines

In a workplace, you will often be required to meet specific deadlines. Your supervisor may tell you what the deadline is for completing set tasks (for example, prepare a draft summary report by 2.00 pm) or you may have regular deadlines for common tasks (for example, on a monthly basis, create a report of customers whose invoices are unpaid and overdue) or there may be financial requirements (for example, a summary report of GST costs). It is important to adhere to organisational time lines for the efficient running of the business.

If for some reason a deadline may not be met or you have conflicting work priorities, discuss this with your supervisor. However, do not leave it until the last minute. Your supervisor may be able to help you by making suggestions about how the deadline can be met or they may be willing to adjust the deadline.

Using a diary system and a to-do list can help you prioritise tasks and be aware of the time lines required for set tasks.

Time lines agreed with an internal or external client

Most organisations have a range of clients, who are either internal or external. Internal clients are those who work in the same organisation, such as work colleagues, people in other departments, managers and supervisors. External clients are those who are outside the organisation, such as customers and suppliers.

In many cases, time lines are set and agreed with your clients, both internal and external. If you agree to a deadline for completing a task, it is important that you meet it and if you can't, speak to your supervisor and the client. Your supervisor may be able to make suggestions that you have not thought of to help you meet the deadline. Speaking with your client will allow you to discuss the issue/s with them and may help you to adjust the deadline.
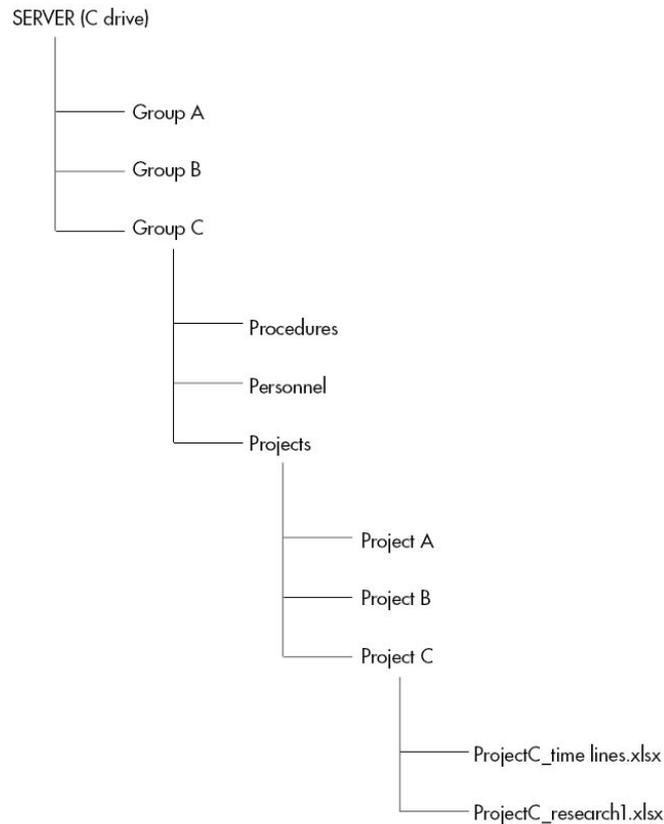
Meeting a deadline demonstrates your competence in undertaking tasks; it also shows professionalism on the job. When deadlines are being set, be sure that they are both achievable and realistic.

Example: shared directory

To set up a shared directory, you must first allocate a shared network drive. Your IT coordinator can help with this.

The first place to organise a directory is at the folder level. Folders have a tree-like structure that branches from a parent directory to sub-folders in a hierarchical structure.

The following example shows the structure of a shared directory.

```
SERVER (C drive)
│
├─── Group A
├─── Group B
└─── Group C
         │
         ├─── Procedures
         ├─── Personnel
         └─── Projects
                  │
                  ├─── Project A
                  ├─── Project B
                  └─── Project C
                           │
                           ├─── ProjectC_time lines.xlsx
                           └─── ProjectC_research1.xlsx
```

In this structure, the server has three folders for three separate work groups: Group A, Group B and Group C. Group C has three major folders: Procedures, Personnel and Projects. The Projects folder includes: Project A, Project B and Project C. Project C has two spreadsheets: ProjectC_time lines.xlsx and ProjectC_research1.xlsx.

The file path for retrieving a file starts at the server and ends when the correct file is located. For example, to reach ProjectC_time lines.xlsx, the file path to follow is
C:\Group C\Projects\Project C\ProjectC_time lines.xlsx.

In Microsoft Excel 2013, the spreadsheet extension is .xlsx.

Learning checkpoint 4
Finalise spreadsheets

This learning checkpoint allows you to review your skills and knowledge in finalising spreadsheets.

Part A

Read the case study, then complete the tasks that follow. Use shortcut keys and menus to assist in maximising the efficiency of the software.

Case study

Mario works as a personal assistant for a manager in a large organisation. His manager asks him to produce a spreadsheet of customer information. The spreadsheet must list 200 customers and their accounts. It must also calculate a 10 per cent interest charge on the accounts and display customers' new balances. The spreadsheet needs to be ready in two days. The following table lists five customers that Mario has to enter:

Customer information	
Customers	**Balances**
Sanchez	$2,300.00
McGregor	$4,000.00
Cunningham	$5,000.00
Wijerwadene	$4,500.00
Taylor	$2,500.00

1. Prepare a checklist of all the tasks Mario will need to do to make sure the worksheet is completed on time.