Description of the Booklet

This booklet is based on the "Introductory Spreadsheet Exercises" book by Denise Pavic and Nelson Press.

The exercises have been modified to reflect the use of Microsoft Excel.

The exercises in this booklet are broken into at most four different sections with the following aims:-

a – to develop skills in entering data in a worksheet, centre, right and left justify labels, determine and change column widths, print and file a worksheet.

b – to develop skills in retrieving a worksheet, centre, right and left justifying labels, editing data, changing column widths, formatting cells to commas, currency, percentage, fixed decimal, using the copy and repeat functions, inserting/deleting/moving rows and columns, freezing titles vertically and horizontally, printing all or part of the worksheet.

c – to develop skills in retrieving a worksheet, entering a formula (adding, subtracting, dividing, multiplying, percentage), *What if* statements, MAX, MIN, AVERAGE, print all or part of a worksheet, entering data into a worksheet with pre-entered formulae.

d – to develop skills in retrieving a worksheet, creating single/multiple graphs for a worksheet (bar, line, stacked bar, XY, pie), naming a graph, saving a graph, retrieving a graph, printing a graph, reset the graph, printing graphs in colour/black and white, displaying formulae.

The exercises still have unedited errors in them that need to be reviewed, corrected.

Sources and References:

"Introductory Spreadsheet Exercises" book by Denise Pavic and Nelson Press.

http://www.qsc.edu.to - Queen Salote's SchoolNET Website
http://www.tongatapu.net.to - **Tonga** on the **'NET**

Queen Salote's SchoolNET Website does not require Internet access as it is not connected to the world wide Internet but uses the same technology within Queen Salote College and participating schools.

http://www.qsc.edu.to is available on all networked computers at Queen Salote College.

Saturday, June 23, 2001

Unit 1

GRADUATES

Exercise 1a

1. Enter in your worksheet details of students who have graduated from Queens University over the past four years. You should enter the data in the columns and rows indicated. Do not type the column letter or the row numbers in your spreadsheet.

	A	B	C	D	E
1	SCHOOLS	1988	1989	1990	1991
2					
3	Lalanga	3982	3999	4012	4350
4	Tuitui	5001	5280	5366	5550
5	Ngäue mo'ua	1098	1300	1298	1503
6	Fika	492	2931	2999	3050
7	Saienisi	2067	2193	2282	2485

2. Where have the labels been entered in the cells (write down the Cell Range where the Labels have been entered) ?

   .....

3. Where have the numbers been entered in the cells (write down the Cell Range where the numbers have been entered) ?

   .....

4. Save the worksheet and name the file "**Graduates**".

5. You wish to commence a new exercise, write down the steps you have to go through to create a new spreadsheet.

   .....

6. Select (Highlight) the worksheet by clicking on the top left hand corner (where the row headings and column headings intersect) and change the font settings for the spreadsheet to.

   - select the Font: Arial,
   - Size: 10

Exercise 1b

7. What is a file extension, and what file extension has been added to your spreadsheet file. For what purpose is the file extension used ?

8. Right justify the headings over all columns. Do not right justify any other items.

9. Change the label 1991 to 1992

10. Insert a new column in E and enter the label heading *"1991"* over the blank new column.

11. Enter the below data for each of the schools under the new 1991 column heading..

Lalanga	4136
Tuitui	5409
Ngäue Mo'ua	1397
Fika	3001
Saienisi	2345

12. Insert a row between Ngäue Mo'ua and Fika.

13. Enter the statistics for the School of "*Musika"* for the years 1988 to 1992.

1988	1989	1990	1991	1992
3129	3384	3421	3550	3902

14. Change the column width of column A to 12

15. Format the cells in columns B to F containing the figures to Comma Style *(Number using a comma to separate 1000s (ie. "use 1000 separator (,))* with no decimal places.

    - Do not include the column headings. How do the numbers in columns B to F now appear in your worksheet.

16. Type the label heading "*TOTAL"* in cells A10 and G1.

    - Right justify the heading in cell G1

17 Format Row 10 Column A to Column G to have a border with a line above and below the cells.

Exercise 1c

16. Total the number of graduates per year by totalling column B (1988) into Row 10.

    - Use AutoFill to copy the formula in column B, row 10 across for the years 1989-1992.
    - Enter the answer in row 10 in the space below:

    1988 ..... 1989 ..... 1990 .....

    1991 ..... 1992 .....

17. Total the number of graduates per school for the five year period 1988-1992.

    - Enter the formula into column G and the answer in the space below.

    Lalanga ..... Tuitui ..... Ngäue Mo'ua .....

    Fika ..... Saienisi ..... Musika .....

18. Look at the totals in row 10 and column G. The look, formatting is inconsistent with the other columns in the worksheet. Format the totals to Comma Style with no decimal places.

19. Enter and right justify the label heading "*1993 Expected Graduates*" in cell H1.

    - Increase the column width to 15
    - Format the Cell to Alignment Wrap Text
    - Make sure the Row Height is 25.50

20. *How many students can the University expect to graduate in 1993?*

    - In the new column for each school, calculate the average number of students graduating between 1988 and 1992 *(over the last five years.)*
    - You should calculate the average for the 1st school in the list, *("School of Lalanga")* and use AutoFill to copy the formula down for each school.
    - Total the expected graduates.

- Write down your findings in the space below.

Lalanga ..... Tuitui ..... Ngäue Mo'ua .....

Fika ..... Saienisi ..... Musika .....

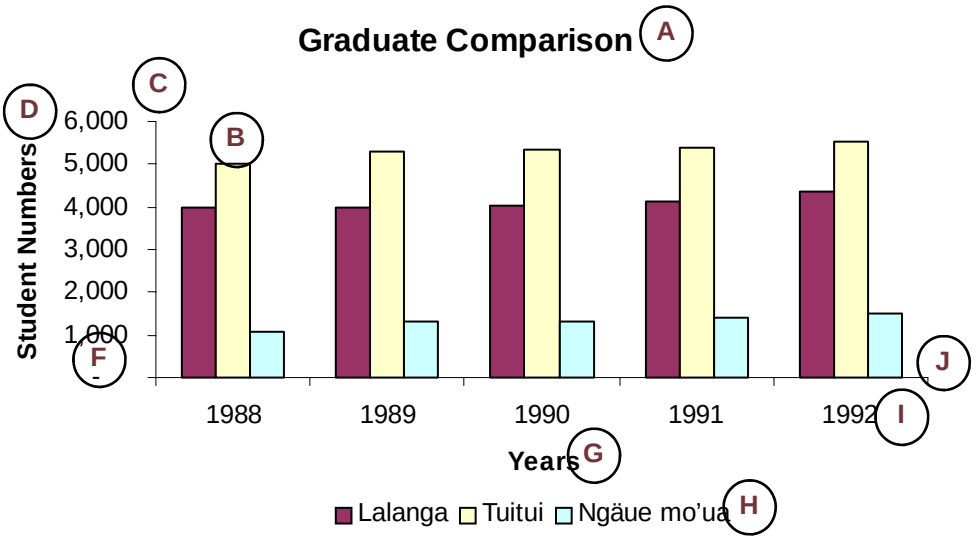
Total Expected Graduates: .....

- Format the column H to Comma Style with no decimal place..

21 Extend the borders rows 10 to column H (to improve the look of the worksheet)

Exercise 1d

22. The graph below was produced using an electronic spreadsheet. Label the parts of the graph from the terms listed: *X axis, Y axis, X axis heading, Y axis heading, Graph Title, X-axis Title, Y-axis Title, Graphed Data, Legend*



A. ..... B. ..... C. .....

D. ..... E. ..... F. .....

G. ..... H. ..... I. .....

J. .....

23. The graph above refers to Unit 1. Study the graph and write below what the graph is comparing.

23. Produce the graph above by following the graph procedures for Microsoft Excel and by highlighting the cells specified on the worksheet below.

SCHOOLS	1988	1989	1990	1991	1992	Category (X) axis Title
Lalanga	3,982	3,999	4,012	4,136	4,350	Series 1
Tuitui	5,001	5,280	5,366	5,409	5,550	Series 2
Ngäue Mo'ua	1,098	1,300	1,298	1,397	1,503	Series 3
Musika	3,129	3,384	3,421	3,550	3,902	
Fika	492	2,931	2,999	3,001	3,050	
Saienisi	2,067	2,193	2,282	2,345	2,485	

- Standard Type : Column

- Data Range : Rows
- Series 1 – Lalanga
- Series 2 – Tuitui
- Series 3 – Ngäue Mo'ua
- Category (X) axis labels: *(highlight 1988 – 1992)*

- Chart Title – Graduate Comparison
- Category (X) axis Title – Years
- Value (Y) axis Title – Student Numbers
- Legend : Bottom

24. Save the graph.

Unit 2

SALES

Exercise 2A

1. Record the daily sales of each department of Tae's Supermarkets for week 8 of 1998. Key in the data below. Do not type the column letters or the row numbers in your spreadsheet.

	A	B	C	D	E	F
1						
2	Day	Deli	Dairy	Liquor	Bakery	Meat
3						
4	Mon	12344.56	11567.78	20785.89	15888	14322.22
5	Tues	10234.77	8006	20600	10765	16999.71
6	Weds	16999	12034.55	21342.89	13255.87	10000
7	Thurs	17844.11	12034.55	24555.66	15433.89	18765.44
8	Fri	25666.99	18999	28999	18765.11	19765
9	Sat	26000	20987.41	35789.01	20000	25099.33

2. Save the worksheet as *"Tae's Sales"*

3. What rules does your Spreadsheet have regarding the naming of worksheets ?

4. Name two ways of making a selection from the spreadsheet menu.

5. Select (Highlight) the worksheet by clicking on the top left hand corner (where the row headings and column headings intersect) and select the Font: Times New Roman; Size: 12 for use on the spreadsheet.

Exercise 2b

6. Adjust the width of column A to 14 and type the days in full.
   - Type in the label *"Dept. Total"* in cell A11
7. Format cells B4 to G4 to currency with two decimal places.
   - What now appears in these cells ?
8. Increase the width of columns B to E to 12
9. Format the cell range B5:G9 to Comma Style with two decimal places.
   - What has happened to the numbers in these cells ?
10. Format the cell range B11:G11 to currency with two decimal places.
11. Liquor sales are recorded on a separate spreadsheet. Delete column D.
12. Centre label headings over all columns.

13. Insert a blank column in column C.

    - Adjust the cell width to 15
    - Enter the label *"Confectionary"*
    - Enter the below Sales for Confectionary

Monday	26894
Tuesday	38261.55
Wednesday	15063.19
Thursday	56031.50
Friday	60938.21
Saturday	70236.99

14. Format cell C4 to currency with two decimal places.

    - Format the rest of the column to Comma Style with two decimal places.

15. Format Row 9 Column A to G to have a border-line below the cell.

16. Key in the label *"Daily Total"* in G2.

    - Extend the formatting (border top and bottom) in row 2 and shown in the sample diagram.

17. Save the changes you have made in the spreadsheet.

Exercise 2c

18. Put a label in A11 called "Department Total"

19. Total the sales for each department by totalling the sales for Deli and using AutoFill to copy the formula across from Columns B to F.

20. Monday's sales for the Dairy Department were $12,567.89. Amend this figure on your worksheet. How does this affect the answer in the total column?

21. Total the daily sales of all departments.

22. Put the following labels into the spreadsheet:

    - A12: Highest Sales
    - A13: Lowest Sales
    - A14: Average Sales

23. Calculate the Highest Sales per department by using formulas and putting it into row 12.

24. Calculate the Lowest Sales per department by using formulas and putting it into row 13.

25. Calculate the Average Sales per department by using formulas and putting it into row 14.

26. Total the daily sales for each department into the *"Daily Total"* column.

27. Next week is Christmas and Tae's Supermarkets anticipates a 50% increase in the sales of all departments.

    - Increase the width of column H to 12.
    - Insert a blank row in rows 3 and 5
    - Add the following label headings
    - H2: Anticipated
    - H3: Daily Sales
    - A18: Anticipated
    - A19: Dept. Sales

28. Tae believes she will get an increase of 50% of sales during the Christmas week. Calculate the anticipated sales for each day using formulas.

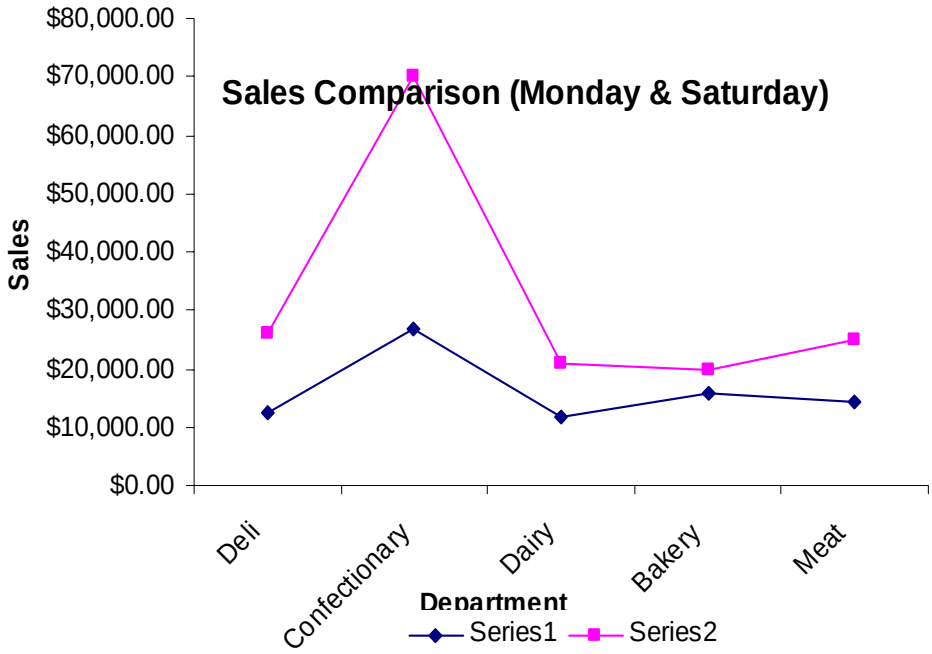
    - (Dept. Total x 1.50) = Week's Anticipated Sales

29. Save changes to the spreadsheet and it should look something like the below example.

Exercise 2d

23. Produce the graph above by following the graph procedures for Microsoft Excel and by highlighting the cells specified on the worksheet below.

Day	Deli	Confectionary	Dairy	Bakery	Meat	X axis titles
Monday	$12,344.56	$26,894.00	$11,567.78	$15,888.00	$14,322.22	Series 1
Tuesday	10,234.77	38,261.55	8,006.00	10,765.00	16,999.71	
Wednesday	16,999.00	15,063.19	12,034.55	13,255.87	10,000.00	
Thursday	17,844.11	56,031.50	12,034.55	15,433.89	18,765.44	
Friday	25,666.99	60,938.21	18,999.00	18,765.11	19,765.00	
Saturday	26,000.00	70,236.99	20,987.41	20,000.00	25,099.33	Series 2
Department Total	$109,089.43	$267,425.44	$83,629.29	$94,107.87	$104,951.70	
Highest Sales	$26,000.00	$70,236.99	$20,987.41	$20,000.00	$25,099.33	
Lowest Sales	$10,234.77	$15,063.19	$8,006.00	$10,765.00	$10,000.00	
Average Sales	$18,181.57	$44,570.91	$13,938.22	$15,684.65	$17,491.95	
Anticipated Daily Sales	$163,634.15	$401,138.16	$125,443.94	$141,161.81	$157,427.55	



- Standard Type : Line

- Data Range : Rows
- Series 1 – Monday *(or highlight Monday from the worksheet)*
- Series 2 – Saturday *(or highlight Saturday from the worksheet)*
- Category (X) axis labels: *(highlight Deli –through to– Meat)*

- Chart Title – Sales Comparison (Monday & Saturday)
- Category (X) axis Title – Department

- Value (Y) axis Title – Sales
- Legend : Bottom

24. Save the graph.

Unit 3

NOTES

Exercise 3A

1. Enter the number of notes printed by the Commonwealth Mint over the past three years in the cells specified. Do not type the column letters or the row numbers in the spreadsheet.

	A	B	C	D	E
1	**Commonwealth Mint**				
2	**Notes Printed 1989-199**				
3	**($1,000,000)**				
4					
5	Dollar Note	1989	1990	1991	
6	100	45	34.67	31.9	
7	50	32.45	34.1	44	
8	20	50.3	54.6	53.9	
9	10	70.39	62.22	65.7	
10	5	64.86	68	76.1	
11	2	85.3	89.99	95	

2. Name the Spreadsheet Tab **Bank Notes**

3. Save the Spreadsheet as **Commonwealth Mint**

4.

Exercise 3B

5. Right justify the label heading Dollar Note in column A

6. Put a line border as shown in the diagram, above and below row 5

7. Enter the label Year Total in cell A13

8. Put a line border below cells A13:E13

9. Format the cell range B6:D15 to fixed with one decimal place. Write in the space below how this has changed the number display from the diagram shown above.

10. Only one decimal place is shown in the columns B-D. Give a mathematical explanation *(ie describe why the computer has selected the number it shows)* for why some numbers are bigger than the number shown in the diagram, while other numbers are smaller. *(eg. B10 has 64.86 but shows 64.9, C9 has 62.22 but shows 62.2)*

11. The spreadsheet shows the number of $2 notes printed from 1989-1991. There is no longer a $2 note. Delete the row from the spreadsheet.

12. Save the changed worksheet as **Commonwealth Mint – Update 1**

Exercise 3C

13. Format columns E6:F15 to fixed with one decimal place

14. Total the number of notes printed each year from 1989 to 1991 by totalling the notes printed in 1989 into the cell B13 and copying the formula across to 1991 column.

15. Total the number of each note printed over the three year period. Head the column **Total Notes** in cell E5 and enter the correct formula to make the calculations into column E.

16. Enter the heading **Average** in cell F5. Right justify the heading. Calculate the average number of each note printed over the three years using a formula and place the formula in the appropriate cells.

17. Enter the label heading **1989/91 Comparison** in cell G5. Subtract the number of each dollar note printed in 1989 from the number printed in 1991. Enter your formula in column G.

18. Extend the borders in Row 5 and 13 to reach Column G.

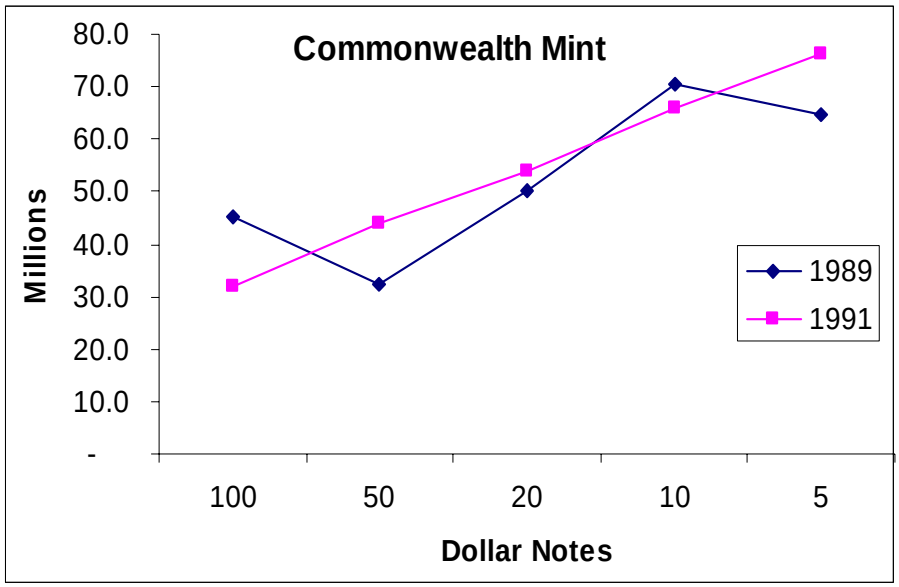
Exercise 3d

19. Use a line graph to illustrate the production of 5, 10, 20, 50 and 100 dollar notes in 1989 and 1990. Highlight the cells specified below

    - Standard Type : Line

Commonwealth Mint
Notes Printed 1989-199
($1,000)

Dollar Note	1989	1990	1991	Total Notes	Average	1989/91 Comparison
100	45.0	34.7	31.9	111.6	37.2	13.1
50	32.5	34.1	44.0	110.6	36.9	-11.6
20	50.3	54.6	53.9	158.8	52.9	-3.6
10	70.4	62.2	65.7	198.3	66.1	4.7
5	64.9	68.0	76.1	209.0	69.7	-11.2
Category axis	1 Data Range		2 Data Range			



- Data Range : Columns
- Series 1 – 1989 *(or highlight 1989 from the worksheet)*
- Series 2 – 1991 *(or highlight 1991 from the worksheet)*
- Category (X) axis labels: *(highlight 100 –through to– 2 in column A)*

- Chart Title – Commonwealth Mint
- Category (X) axis Title – Dollar Notes
- Value (Y) axis Title – Millions
- Legend : Right

Unit 4

GYM

Exercise 4a

'Atele Sports Complex has four tennis courts, two volley ball courts, four squash courts, and one racquet ball court. To help management keep track of the popularity and availability of the facilities, a spreadsheet is used to record details of use.

1. Set the following column widths for the spreadsheet.
   - Column A. 14
   - Column B. 10
   - Column C. 8
   - Column D. 8
   - Column E. 8
2. Set all cells to the following formatting:
   - Arial
   - 10
3. Enter into the worksheet the game and court booking details.

	A	B	C	D	E
1					
2	Game	Court No	Hours Booked	Hourly Rate	Amount
3	Volley ball		2	3	10
4	Racquet ball		1	1	9.5
5	Squash		4	1	9.9
6	Volley ball		2	1	10
7	Tennis		3	4	15
8	Squash		3	1	9.9
9	Volley ball		1	1	10
10	Tennis		1	4	15
11	Tennis		2	1	15
12	Squash		3	2	9.9
13	Volley ball		1	2	10

4. Right Justify the column headings in columns B through to E
5. Label cell A14 as **Day's Total** and format the A14:E14 to have a border line above and below.
6. Format the Row 2 to use "Alignment | Wrap Text"
7. Save your worksheet as **'Atele Gymnasium**
8. Print your worksheet

Exercise 4b

9. Insert three rows at the top of the worksheet. Format columns D and E to style Currency with two decimal places.
10. Enter a heading at the top of the worksheet
    - 'Atele Health and Fitness Facilities
    - Court Bookings Details
    - Monday, 3 June 1998
11. The hourly rate for tennis increased from $18.00 as from 1st of June. Alter the worksheet accordingly

12. Two bookings were left out by mistake. Add these extra bookings into the spreadsheet

    - Tennis, Court 4, 3 hours
    - Racquet ball, Court 1, 1 hour

13. Management wishes to include more specific information on the time of day of the booking. Insert two columns at E and enter right justified label headings:

    - Time AM in column E
    - Time PM in column F

14. After an injury in the first five minutes of play the squash booking on Court 4 was cancelled. Delete the row of the 1 hour squash booking on Court 4 from the worksheet as no fee was charged.

15. Save and print the new worksheet.

Exercise 4c

16. Calculate the amount received per booking by entering the formula for the appropriate row in column G.

    - Hours Booked x Hourly Rate = Amount

17. In G20 enter a formula to calculate the greatest amount received from the bookings. Enter a Right Justified Label in H20

18. The management wants to be able to calculate from the booking revenues whether the facilities are making money or not. Enter the details of the Expenses in the cells shown below

    - A22: Day's Revenue
    - A23: Less
    - A24: Day's Expenses
    - A25: Desk Manager's Salary
    - A26: Electricity, water, etc.
    - A28: Total Profit/Loss
    - F25: 250
    - F26: 100
    - G22: (enter a formula to total the Day's Total)

19. Total the expenses using a formula into G27

20. Subtract Expenses from Revenue to obtain the profit or loss for the day. Enter the formula in G28

21. Save and print the modified spreadsheet.

22. All bookings, except for the last two, were in the morning. Business in the complex is slow on Monday afternoons. A local high school wishes to book the complex from 1 to 4 pm on Monday afternoons paying $5.00 per student, with a minimum of 50 students attending. Would the gym make a profit if it were to take this regular booking?

    - How did you calculate your answer?

23. Tomorrow you will enter information in a spreadsheet for 4 June 1998. Only the booking details will change, the headings will remain the same. What suggestions can you make to speed up the task of entering daily booking details?

Exercise 4d

24. Produce a bar graph to compare the hourly rate charged for each game.

- Title: 'Atele Health & Fitness Facilities
- Category Axis: Games
- Value Axis: Price

25. Interpret the graph by describing what the graph reveals about court charges.

Unit 5

Doc Gum

Exercise 5a

Doctor Gum conducts a small dental practice in Randwick, New South Wales. He uses an electronic spreadsheet to record account payment details of his dental patients.

1. Enter the information below in your worksheet for 21 October 199-.

   - A. Set the following column widths
     Column A — 14
     Column B — 19
     Column C — 15
     Column D — 9
   - B. Enter the client receipt details for 21 October 199– in your worksheet

	A	B	C	D
1	Client Receipts 21 December 199-			
2				
3	Receipt No	Patient Name	Payment Method	Amount
4	1130	Mr. John Smith	Cheque	260.9
5	1131	Miss Sarah Jones	Cash	23.4
6	1132	Miss Kim Tong	Cash	109.86
7	1133	Mr Mario Padrous	Bankcard	93.5
8	1134	Ms Jacqui Meski	Cheque	24.3
9	1135	Miss Lisa Gabore	Cheque	24.3
10	1136	Mr Toni Ski	Bankcard	10
11	1137	Mr Alan Crisp	Cash	45
12				
13				
14				

   - C. Centre the receipt numbers in column A.
   - D. Right justify the label headings in columns A to D

2. Save the worksheet to your data disk, call your worksheet Dr. Gum

3. Print the worksheet.

Exercise 5b

4. Centre all label headings over columns.

5. Format column D to currency with two decimal places

6. Mr Padrous' name is spelt Padrolous. Edit the cell and correct the spelling.

7. Mr. Smith's cheque bounced (was not accepted at the bank), remove his payment details from the worksheet (delete the row such that the rest of the rows are moved up and no blank row exists)

8. Insert in Column B a new column with the centred label heading **Item No.** Dr. Gum will use this to include a

summary of what each patient received in the consultation. Enter at the bottom of the worksheet in column A the 'legend' below:

Legend

- 1 = filling
- 2 = tooth removed
- 3 = scaling
- 4 = cap
- 5 = braces

9. Key in the item numbers for each patient on 21 December 199-

- Miss Jones — 2
- Mr Padrolous — 4
- Mr Ski — 1,3
- Mis Tonga —3
- Ms Meski — 5
- Mr Crisp — 1
- Miss Gabore — 1, 3

10. Centre the items in column B

11. Recentre the main heading over the worksheet

12 Save the amended worksheet.

Exercise 5c

13. Enter the label **Total Receipts** in cell A13.

14. Format E13 to have a line above and under the cell.

15. Total the payments received by Dr. Gum for the day by using a formula in E13

16. Mr. Smith came into the surgery and paid cash for his bill of $260.90. The new receipt number is 1138. The item numbers are 1 and 2. Include Mr. Smith's payment detail in row 11.

17. Verify that your formula has included Mr. Smith's payment

18. Dr. Gum requires the payment method included in the worksheet for record purposes, but does not want it displayed. Hide column D – Payment Method

19. Save the amended worksheet.

Exercise 5d

20. Dr. Gum wishes you to prepare as a pie chart the toal receipts per month for the first quarter of 199-. The receipts for each month were:

- January $1,099
- February $16,789
- March $12,455
- April $25,000
- (a) Graph Title: Total Recipts

21. Save the graph as a new sheet

22. Save the amended worksheet.