Suggested Exercises for Data Analysis

Exercise One

You work in Lavinia's Beauty Parlour. The price list is shown below. You should set up a model spreadsheet for each client, which shows (for a six month period):
- all the treatments that the client has undertaken
- the date the treatment was undertaken
- the cost of each treatment
- the total for each visit to the salon
- a running total for the six month period

Lavinia's Beauty Parlour – Price List

Service	Price (US$)	Time	Service	Price (US$)	Time
FACIAL			**HAND CARE**		
Skin analysis	complimentary	20 mins	Manicure	3	30 mins
Mini facial	15	1 hr	French manicure	5	30 mins
Deep cleansing	30	1 hr 30 mins	Nail buffer	5	20 mins
Firming lift intensive care	50	1 hr 30 mins	Arm/hand massage	5	40 mins
EYES			**FOOT CARE**		
Treatment with mask	5	2 hrs	Pedicure	3	30 mins
Collagen treatment	10	30 mins	Leg massage	5	45 mins
Lifting treatment	12		Foot treatment	8	45 mins
Brow tint	8	15 mins			
Lash tint	10	15 mins	**BODY**		
Lash and brow tint	15	30 mins	Exfoliation and massage	30	2 hrs
Brow shaping	10	20 mins	Massage	10	1 hr

Provide test data, enter it into the model.
Print two copies of the spreadsheet:
- one showing the values
- one showing the formulae

Steps used to create this example solution as seen in (LAVINIAS.XLS):
- copy all descriptions and price data from price list table to a new spreadsheet table (1.1.1)
- create a new column and provide a unique job code for each treatment (1.1.1 and 1.1.2)
- remove all unwanted (e.g. category titles like Eyes, Body, etc) data and blank rows (1.1.1)
- sort data by Code column (1.1.4)
- name this range (1.1.1)
- save and print a copy of this table for reference (4.1.1)
- on a new sheet enter headings for the client treatment:
  Date, Treatment Code, Treatment Description, Price, Running Total (1.1.2)
- in the Treatment Description and Price columns enter lookup functions to look up the Treatment Code in the lookup table named earlier and set to look up values in the appropriate columns to the right (1.1.4)
- copy these formulae down several rows to provide calculations for test data (1.1.1)
- in the Running Total column enter a formula to add the new treatment cost to the previous total (1.1.3)
- save and print this sheet showing formulae used. Set page orientation to landscape for this printout and ensure that all data fits to one page (3.3.1 and 4.1.1)

- when several dates of test data have been entered, use subtotal on change of date to provide costs of treatments on individual occasions (1.1.4)
- ensure that all prices are set to currency (US$) and to two decimal places (3.1.1)
- ensure that all columns are wide enough to display all data (3.2.1)
- save and print the sheet showing costs of each visit (4.1.1)
- select a specific date for treatment and provide all details of treatments undertaken that day including overall total price of the treatments for that day (2.1.1)
- print this information (4.1.1)

Exercise Two

Painting Project[1]

You have been asked to create a model to help clients know how many tins of paint they need to buy and how much they will spend to paint their house. Clients will provide the perimeter and the height of each room in the house. The program should calculate the number of tins needed and the total cost. The model should be able to receive data for at least ten different rooms and should show the following information:
Client: XXX XXX

The table should show columns for:
- Room description   Perimeter   Height   Number of tins needed per room
                        Cost for that room

The table should then calculate the total cost for the client.

Each tin can be used to cover $23m^2$ of wall and its price is $17.50.

Prepare the spreadsheet with this information and try it with different data for two different clients who live in different houses.

Place the model in one sheet, and create a different sheet for each client.

Print one of the clients' spreadsheets showing the results and again showing the formulae.

Include your name and date in each printout.

Extending the spreadsheet:
- the store now has several types of paint tins
- they are of different sizes and will cover different wall areas
- they also have different prices

---

[1] Acknowledgements and thanks to Elizabeth Orams for this contribution

The following table shows the information of the different types of paints available at the store.

CODE	TYPE	AREA COVERED (m^2)		COST
1102	Vencedor	35		34.00
1305	Titan	27		22.50
1432	Rocky	12		17.50
2643	Super Paint	30		32.00
2781	Milkisant	22		18.90
4005	Aguamarine	32		33.00

Modify your model to allow the client to choose a different type of paint for each room.

Print the table for one client showing the results and showing the formulae.

Include your name and date.

Exercise Three

- create a model with the following column headings: (1.1.1 and 1.1.2)

Minimum Model#	Product Name	Cost Price	Selling Price	Quantity	Value	Stock Reorder

- in an empty cell above or to the right of this data block insert the following text and to the right of this the following number: (1.1.1 and 1.1.2)
  Mark up
  Percentage   30

- on a row below the headings enter the following data to begin the test data structure: (1.1.2)

Model#	Product Name	Cost Price	Quantity	Minimum Stock
100	Personal Copier	$827.48	891	900

- in the SELLING PRICE column enter, a formula which calculates a markup for selling price of 30%, using the MARKUP PERCENTAGE cell value as an absolute cell reference (1.1.3)
- in the VALUE column enter a formula which calculates the sales value of the stock from the SELLING PRICE and QUANTITY in stock (1.1.3)
- in the REORDER column enter a conditional function to return **Yes** if the product needs to be reordered and **No** if the stock level is above the minimum (1.1.4)
- save this structure for the spreadsheet. Set page orientation to landscape and adjust the print to fit on one page. Print one copy showing formulae used.Remember to print your name and today's date on the printout (4.1.1 and 3.3.1)

www.xtremepapers.net

- now enter the following data into your spreadsheet: (1.1.2)

Model#	Product Name	Cost Price	Quantity	Minimum Stock
C110 GLS	Personal Copier	992.98	606	500
C200 GLS	Personal Plus Copier	1,429.89	80	100
C300 GLS	Business Copier	2,470.85	590	500
C310 GLS	Business Copier	2,965.02	340	300
C400 GLS	Professional Copier	4,269.62	49	50
C410 GLS	Professional Copier	5,123.54	91	100
C500 GLS	Professional Plus Copier	7,377.90	759	500
F100 G	Personal Fax	607.96	495	500
F200 G	Personal Plus Fax	729.55	463	450
F350 G	Business Fax	1,260.66	404	400
F400 G	Professional Fax	1,512.80	71	100
F550 G	Professional Plus Fax	2,614.11	150	100
F600 G	Compact Professional Plus Fax	3,136.94	992	500
P100 G	Personal Printer – Dot Matrix	307.95	77	90
P310 G	Personal Plus Printer – Ink Jet	708.32	290	300
P500 G	Business Printer – Laser	1,770.78	592	500
P1000 G	Professional Printer – Laser	3,451.56	150	100

- copy the formulae in the columns SELLING PRICE, VALUE and REORDER to apply to all the products in the list (1.1.1)
- widen all columns to ensure all data is displayed (3.2.1)
- use the SUM function to total the Sales value of the stock (1.1.4)
- set the data in the columns COST PRICE, SELLING PRICE, and VALUE to two decimal places and US dollar currency format. Set the numeric data in the *QUANTITY* and *MINIMUM STOCK* columns to integer value (3.1.1)
- save a copy of this spreadsheet and print one copy in landscape orientation, fitting all data onto one page (3.3.1 and 4.1.1)
- find all products that need to be reordered. Print a copy of all these products (2.1.1)
- from the full list of products, extract all those that are fax machines, and from these only those where the number in stock is less than 200 (2.1.1)
- print this list of products (4.1.1)