

Excel Exercises Chapter 1

Excel skills required: See text section 1.9

1. Entering data onto an Excel spreadsheet
2. Entering basic arithmetic formulae
3. Introduction to graph plotting: bar charts; line graphs; XY scatter (scatter-plots).

Mathematics required from chapter 1: arithmetic operations including percentages.

1. The number of hours worked in a given week by its seven employees and their hourly rate of pay is given in Table 1.1E.

Name (initials)	RC	JE	TM	EOG	TMcG	LF	MMcM
Hours worked	41.0	35.0	20.0	52.0	56.0	40.0	38.0
Rate per hour (£)	25.2	24.5	9.5	16.5	32.2	35.0	54.5

Table 1.1E Hourly rate of pay and hours worked by employees of newsagent in week 10

Plot a bar chart showing the hours worked for the given week by each employee. Give a brief description of the information displayed in the chart.

2. See Table 1.1E. Calculate and plot a bar graph showing the total weekly pay for each employee.
3. See Table 1.1E. Following negotiations it was agreed that one and half times the hourly rate should be paid for hours worked in excess of 40 hours (overtime hours) weekly. In view of this agreement, recalculate the total pay for each employee and plot a bar chart comparing these results to those in questions 2. Give a brief description of the information displayed in the chart.
4. See Table 1.1E. Calculate the total pay bill for the seven employees when overtime is included. Calculate the percentage increase in the total pay bill as a result of the overtime allowance.
5. See Table 1.1E. Calculate and plot a bar chart to display the percentage of the total pay bill (with overtime rate applied) earned by each of the employees
6. See Table 1.1E. Plot a bar chart to compare the total hours worked per week and percentage of the total pay (with overtime rate applied) for each employee. Give a brief description of the information displayed in the chart
7. The following table (Table 1.7E) gives the over weight and obese persons as a percentage of the population aged 15 and over*
Overweight (BMI 25 to 29.9): Obese (BMI 30 and over)

Over wt. Males	Over wt. Females	Obese Males	Obese Females
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Belgium	37.4	24.2	10.3	11.8
Bulgaria	38.8	28.8	11.3	13.5
Czech Republic	42.8	30.4	13.5	15.1
Denmark	39.8	24.8	9.8	9.1
Germany	48	31.1	18.8	21.7
Estonia	33.4	28.7	9.3	16.7
Ireland	42.2	26.7	15.1	11.8
Greece	50.8	36.5	10.6	10.8
Spain	44.1	27.8	13	13.5
France	35.1	21.2	9.4	9.2
Italy	40.6	23.5	8.3	7.9
United Kingdom**	43.9	33.6	22.3	23

Table 1.7E

* Source: National Health Interview Surveys (HIS) covering 2000-2003 data depending on Member State, except for Estonia and Poland: 1996, Germany: 1998 and Portugal: 1999. Austria has the European Household Panel as a source (2001 data). The methodology might differ slightly between Member States

** UK: only England

(a) Plot bar charts to compare (i) over weight males and females (ii) obese males and females (iii) overweight and obese males (iv) overweight and obese females

(b) Describe the information displayed in each chart in (a)

8. In 2002 the population of Ireland aged 15 and over was 3,089,775 (1,522,120 males and 1,567,655 female)

Use the data in Table 1.7E to calculate the number of

- (i) obese males
- (ii) overweight or obese males
- (iii) overweight females

9. The number of motor vehicle traffic accidents per 100000 (for all ages) of the population in Greece and Iceland for the years 1975 to 2004 is given in Table 1.9E

Greece							
Iceland							

Table 1.9E Motor vehicle traffic accidents, all ages per 100000

- (a) Plot a line graph to compare the number of motor accidents per year from 1975 to 2004. Describe the graph verbally.
- (b) The population of Greece and Iceland for the years 2000 and 2004 is given in Table 1.10E. Calculate the number of motor vehicle accidents in each country in 2000 and 2004.

10. The population (in thousands) and the percentage of women (16 – 64 years) in paid employment for Iceland and Greece is given in Table 1.10E

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		2000	2004	2005	2006	2007
Iceland	Population (thousands)	281.154	292.587	295.864	304.334	311.390
	Percentage of women (16-64 years) in paid employment	80.993	79.414	81.236	81.641	81.670
Greece	Population (thousands)	10 917.457	11 061.735	11 103.929	11 148.533	11 192.849
	Percentage of women (16-64 years) in paid employment	41.280	45.473	46.221	47.544	48.058

Table 10E. The population (in thousands) and percentage of women in paid employment Source: OECD

- (a) Plot a scatter diagram (XY scatter) for the population of (i) Greece (ii) Iceland between 2000 and 2007. Describe the population trend in each country
- (b) Calculate the increase in population in 2007 as a percentage of the population in 2000 for (i) Iceland (ii) Greece
11. (a) Plot a suitable graph to compare the percentage of women (aged 16-64 years) in paid employment in each country. Describe the information displayed in the graph
- (b) Calculate and plot a chart to display the population of Iceland as a percentage of the population of Greece. What information does this graph reveal?

Briefly describe the information displayed in the graphs in questions 10 and 11.