Tutorial 2- Presenting of Data

1) Roger Amster teaches an English course in which 40 students are enrolled. After yesterday's class, Roger questioned the 5 students who always sit in the back of the classroom. Three of the 5 said "yes" when asked if they would like *A Tale of Two Cities* as the next class reading assignment.
   a) Identify the population and the sample in this situation.
   b) Is this likely to be a representative sample? If not, why not?

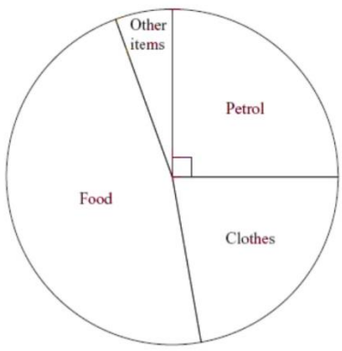
2) A survey of students' favorite after-school activities was conducted at a school. The table below shows the results of this survey.
   a) Draw the bar chart for this data.
   b) What is the difference between a histogram and a bar chart? For what type of data would each be appropriate?

Students' Favorite After-School Activities	
Activity	**Number of Students**
Play Sports	45
Talk on Phone	53
Visit With Friends	99
Earn Money	44
Chat Online	66
School Clubs	22
Watch TV	37

3) The table gives information about the numbers of fish in a lake. Draw an accurate pie chart to show this information.

Fish	**Frequency**
Perch	10
Bream	23
Carp	39

4) A lady went shopping at a superstore. The pie chart shows information about the money she spent on petrol, on clothes, on food and on other items.



   a) What did she spend most money on?
   b) What fraction of the money she spent was on petrol?
   c) She spent $25 on petrol at the superstore. In total, how much money did she spend?

5) Construct a histogram for the following height frequency distribution

Height (in cm)	101 – 110	111 – 120	121 – 130	131 – 140	141 -150
Number of children	15	18	12	6	9

6) The following performance score have been recorded for 25 job applicants who have taken a pre-employment aptitude test administrated by the company to which they applied:

66.6	75.4	66.7	59.2	78.5	80.8	79.9	87.0	94.1	70.2	92.8
86.9	92.8	66.8	65.3	100.8	76.2	87.8	71.0	92.9	97.3	82.5
78.5	72.0	76.2								

Construct a frequency distribution and a histogram for these data.

7) Use below ages of the people who attend gymnastics meet to complete following questions.
12, 17, 15, 14, 19, 17, 13, 16, 15, 16, 17, 18, 24, 23, 28, 45, 48, 36, 12, 23, 15, 14, 13, 15, 17, 18, 19, 15, 15, 16, 16, 16, 16, 17
   a) Make a stem and leaf plot of the data.
   b) How many people attended the meet?
   c) What are the ages of the youngest and oldest persons attending?
   d) Which age group was more widely represented?

8)
   a) Following values shows a country's crop harvested areas in acres (millions) from 1992 to 2004. Draw a boxplot of this data.

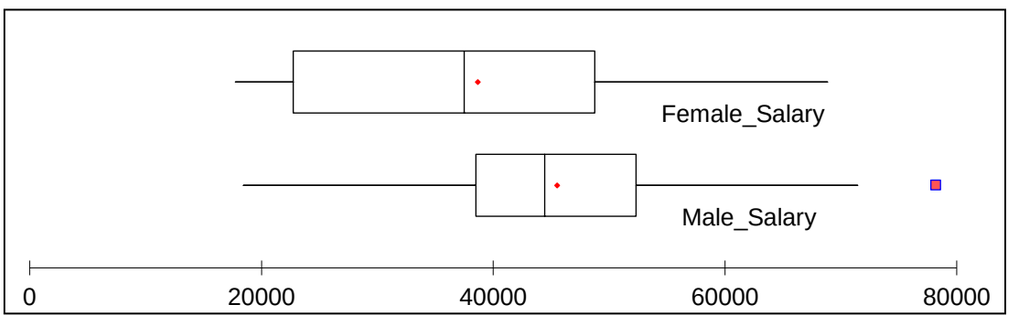
317	308	321	314	326	332	326	327	325	321	316
324	321									

   b) The following data on tourist arrivals have been obtained from the annual reports of Ceylon Tourist Board.

		Tourist arrivals (in thousands)				
	Year	*2001*	*2002*	*2003*	*2004*	*2005*
Reason for Traveling	*Pleasure*	377.5	383.6	348.6	354.7	296.9
	Business	21.3	10.8	10.5	15.6	9.8
	Other	8.6	8.8	7	10.7	7.6
	Total	**407.4**	**403.2**	**366.1**	**381**	**314.3**

Use a suitable graph or a chart to represent the above data. Comment on the variation of the tourist arrivals.

9) A manager for MAS Holding Limited has recently been hearing some complaints that women are being paid less than men for the same type of work in one of their manufacturing plants. The boxplots shown below represent the annual salaries for all salaried workers in that facility (40 men and 34 women).



   a. Would you conclude that there is a difference between the salaries of women and men in this plant? Justify your answer.
   b. How large must a person's salary should be to qualify as an outlier on the high side? How many outliers are there in these data?
   c. What can you say about the shape of the distributions given the boxplots above?

10) Suppose that the following two data sets I and II correspond to percentage marks obtained by two groups of students of size twenty each. They are arranged in ascending order of magnitude.

Student no	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
I	11	11	13	14	18	21	23	28	30	33	37	39	41	43	54	57	79	81	82	87
II	10	22	27	28	28	29	29	29	31	35	38	38	50	52	54	80	82	90	90	95

a. Classify each of the above data sets according to the following table.

Class Boundaries	Frequency I	Frequency II
E: (0.05- 29.5)		
D: (29.5- 39.5)		
C: (39.5- 54.5)		
B: (54.5- 69.5)		
A: (69.5- 99.5)		

b. Find the cumulative frequencies for each group of students and draw their graphs on the same graph paper. Comment on the differences.