GERMAN INTERNATIONAL UNIVERSITY
الجامعة الألمانية الدولية

Department of Mathematics
Dr. Phoebe Edward Nashed

Mathematics

for Computer Science Students (Math 403)

WorkSheet No. (1)

Problem 1:

For the data set below (representing the cholesterol levels of 40 individuals), find mean, mode, median and variance. Then organize the data into a frequency distribution with 8 classes.

231	228	257	221	238	196	242	219	252	235
227	256	198	240	251	246	217	236	224	215
241	226	200	238	259	231	246	231	219	256
244	222	207	259	203	196	215	222	206	213

Problem 2:

Given the sorted data

745	746	747	750	753	754	756	757	758	759
760	760	761	762	763	764	766	766	767	768
769	770	770	771	771	771	771	776	778	780

Find mean, mode, median and variance.

Problem 3:

The following data set represents a daily record of the marked price of 1-barrel oil over 2 months.

83.7, 63.1, 89.8, 82.1, 89.3, 54.8, 73.2, 63.7, 52.9, 77.9, 78.1, 51.4, 72.1, 66.9, 71.7, 60.1, 89.9, 89.1, 81.8, 81.1, 60.2, 77.6, 72.6, 70.4, 55.8, 72.9, 85.3, 80.6, 53, 78, 74.2, 51.4, 50.8, 79.8, 66.3, 83.6, 81.5, 52.6, 77.5, 82.3, 79.4, 59.7, 81.9, 75.8, 50.1, 69.8, 53.9, 85.3, 75.5, 88.2, 51.1, 76.5, 65.1, 65.1, 69.6, 67.3, 79.9, 79.2, 54.2, 84.3.

a) Set up a frequency distribution of the prices with 5 classes.

b) Change the number of classes to 8.

c) Generate a histogram for [a] and [b].

d) Find mean, mode, median and variance for [a] and [b].

Problem 4:

The three data sets have the same mean and range, but is the variation the same? Prove your answer by computing the standard deviation.

(A) 5, 7, 9, 11, 13, 15, 17.

(B) 5, 6, 7, 11, 15, 16, 17.

(C) 5, 5, 5, 11, 17, 17, 17.

Problem 5:

Find the mean, mode, median and standard deviation for the following frequency distribution representing a sample of a population.

Class	Midpoint	Frequency
5.5 – 10.5	8	1
10.5 – 15.5	13	2
15.5 – 20.5	18	3
20.5 – 25.5	23	5
25.5 – 30.5	28	4
30.5 – 35.5	33	3
35.5 – 40.5	38	2

a) Draw a histogram.

b) Calculate the cumulative frequencies.

Problem 6:

For the data sets below, find mean and variance.

(X) 3, 5, 7, 12, 15, 16, 18, 20.

(Y) 7, 9, 11, 16, 19, 20, 22, 24.

(Z) 9, 15, 21, 36, 45, 48, 54, 60.

Problem 7:

A data set containing 10 readings with mean $= 5$. When these readings are **doubled**, the variance becomes 12. What is the value of the sum of the original readings and the sum of their squares?