National University

of Computer & Emerging Sciences Peshawar Campus

Program: BS (CS & SE)
Semester: Spring-2022
Course: MT2005-Probability & Statistics

Examination: Assignment # 01
Total Marks: 10, Weightage: **2.5**
Date of Submission: 03 / 03 / 2022

NOTE: ATTEMPT ALL PROBLEMS.

Problem # 01

The following data set represents the scores on intelligence quotient (IQ) examinations of 40 sixth-grade students at a particular school:

114, 122, 103, 118, 99, 105, 134, 125, 117, 106, 109, 104, 111, 127,
133, 111, 117, 103, 120, 98, 100, 130, 141, 119, 128, 106, 109, 115,
113, 121, 100, 130, 125, 117, 119, 113, 104, 108, 110, 102

(a) Present this data set in a frequency histogram.

(b) Which class interval contains the greatest number of data values?

(c) Is there a roughly equal number of data in each class interval?

(d) Does the histogram appear to be approximately symmetric? If so, about which interval is it approximately symmetric?

Problem # 02

For the following data, draw stem-and-leaf plots having 4 stems.

124, 129, 118, 135, 114, 139, 127, 141, 111, 144, 133, 127,
122, 119, 132, 137, 146, 122, 119, 115, 125, 132, 118, 126,
134, 147, 122, 119, 116, 125, 128, 130, 127, 135, 122, 141

Problem # 03

Suppose in CITY 1, temperatures are measured in degrees Fahrenheit, whereas in CITY 2 it is measured in degrees Celsius (also called Centigrade). Suppose that during the month of January the sample mean of the temperatures recorded in CITY 1 was 40 ^0F with a sample variance of 12 ^0F.

Use the formula for converting a Fahrenheit temperature to a Celsius temperature

$$C = \frac{5}{9}(F - 32)$$

to find

(a) The sample mean temperature recorded by CITY 2.

(b) The sample variance of the temperature recorded by CITY 2.

Problem # 04

The following stem-and-leaf plot records the diastolic blood pressure of a sample of 30 men.

9	3, 5, 8
8	6, 7, 8, 9, 9, 9
7	0, 1, 2, 2, 4, 5, 5, 6, 7, 8
6	0, 1, 2, 2, 3, 4, 5, 5
5	4, 6, 8

Compute the sample mean $\bar{x}$, sample median and sample mode of the data.

The End