

First Homework for

Introduction to Probability and Statistics (101 Stat)

- 1) Classify each variable as discrete or continuous and as qualitative or quantitative.**
- a) The variable that recording the types of trees in the world
b) The variable that recording color of flowers in gardens
c) The variable that recording the lifetime of lamps of a specific brand
d) The variable that recording types of cars in the forest markets in Riyadh
e) The variable that recording numbers of busses in Qaseem
f) The variable that recording colors of the spectrum of rainbow
g) The variable that measures the heights of people
h) The variable that measures the temperature inside classrooms in KSU
- 2) Give two examples for each of the following (It is not permissible to use the phrases that were written in the previous application):**
- a) Discrete quantitative variable
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- b) Continuous quantitative variable
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- c) Discrete qualitative variable
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- d) Continuous qualitative variable
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3) Let 7, 20, 8, 6, 7, 8, 8, 9, 6, 9, 5, 4 be given data. Then:

a) Find the **mode(s)** of the given data

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b) Calculate the **standard deviation** of given data

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c) Calculate the **standard score** for the value 8

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d) Calculate the **coefficient of variation** for the given data

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e) Calculate \hat{D}_5 , P_{75} , LF and HF for the given data

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f) Draw the **box plot** for the given data and determine LF , HF and the five numbers on the graph

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- 4) Forty students were asked about their blood types (or blood groups). The results were found as follows:

A	A	B	AB	A	B	O	O	O	B
A	B	B	B	O	O	AB	AB	A	A
B	B	B	AB	B	A	A	A	O	O
B	AB	O	AB	B	AB	A	A	O	A

- a) Construct a **frequency table** for this data

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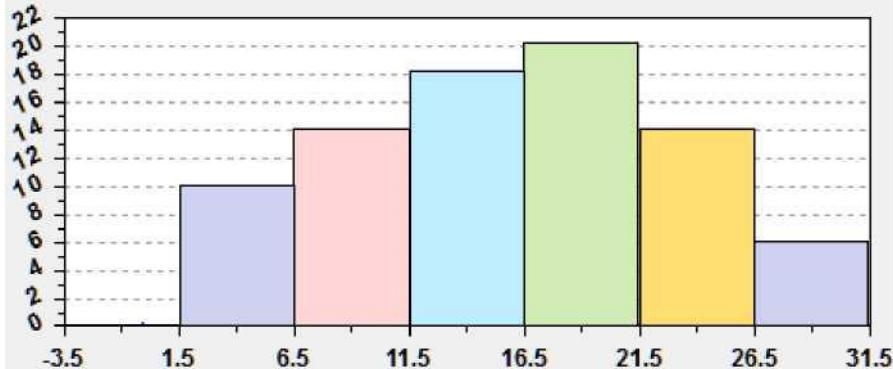
- b) Draw the **bar chart** for the given data

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- c) Draw the **pie chart** for the given data

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5) Consider the following histogram of grouped data:



a) Prepare the **frequency distribution table** for the given data

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b) Calculate the **mean, median and mode(s)** for the given data

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c) Calculate the **standard deviation** for the given data

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6) Consider data given by the following frequency distribution table:

Class	Class	Midpoint	Frequency	Relative	Percentage	ACF	DCF
2 - 6			6				50
	6.5 → 11.5			0.24			
		14			18 %		
	16.5 → 21.5					42	
22 - 26			8				
Sum							

a) Complete the above frequency distribution table

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b) How many **mode(s)** have the data of the above frequency distribution table? Calculate it (them)

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c) Calculate the **variance** for the given data

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d) Draw **ogives** of the above frequency distribution table

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