

Assignment # I

Instruction: based on student-data answer the following questions.

Part I: Provide a brief answer to the following questions

a) How many variables were recorded or measured?

b) Identify the variable types. List the variables based on the following categories: discrete, continuous, nominal and ordinal variables.

Discrete

Continuous

Nominal

Ordinal

c) Identify the binary variables

d) For each variable identify the graphical and tabular methods that can be used to summarize the data

Part II: Fill out the following tables

Table (1). Age distribution

Age class	Frequency	Relative frequency	Cumulative frequency
16-19			
19-22			
22-25			
25-28			

Note: a student with age 19 belongs to the first class. Similarly a student with age 22 belongs to the second-class, etc.

What is the class width-----

Table (2). Height distribution

Height class	Frequency	Relative frequency	Cumulative frequency
5.0-5.3			
5.4-5.7			
5.8-6.1			
6.2-6.5			

What is the class width-----

Table (3). Weight distribution

Weight class	Frequency	Relative frequency	Cumulative frequency
95-125			
125-155			
155-185			
185-215			
215-245			
245-275			
275-305			

Note: a student with weight 125 belongs to the first class. Similarly a student with weight 155 belongs to the second-class, etc.

What is the class width-----

Part III: answer the following questions

1. Age distribution

- a) What is the number of students with age between 20 and 22 years? _____
- b) What is the percentage of students with age between 17 and 19 years? _____
- c) How many students have age less than or equal to 25? _____

2. Height distribution

- a) What is the number of students with height between 5.8 and 6.1 feet? _____
- b) What is the percentage of students with height between 5.4 and 5.7 feet? _____
- c) How many students are taller than 5.7 feet? _____

3. Weight distribution

- a) What is the number of students with weight between 155 and 185 pounds?_____
- b) What is the percentage of students with weight between 125 and 155 pounds?____
- c) How many students weigh less than or equal to 155 pounds?_____

Part IV: Displaying data using graphs: Use MS excel to create your graphs: Graphs of histogram and dot plot are to done by hand, I do not think there is a feature in excel for creating Histogram and dot plot. Use excel to create bar graphs, pie charts, cumulative frequency polygon). Attach all your graphs.

1. Based on the frequency distribution in Tables 1-3, create a histogram, and cumulative frequency polygon for each variable.
2. For the following variables (Gender, stat_before, maths3_before, smoking_status, and favorite sport) display the distribution of the data using bar chart, pie chart and frequency distribution
3. Display the distribution of the number of siblings using line chart, frequency distribution and a dot plot.

Part V: Contingency Tables and scatter diagrams

1. Create a contingency table for
 - a) Gender by smoking status

- b) Gender by favorite sport

c) Stat_before by maths3_before

2. Create a scatter diagram for the following variables. Attach your graphs (use excel).

a) Age vs. height

b) Height vs. weight