Assignment 1

Due on 2015-07-26, 23:55 IST

Submitted assignment

1) *1 point*

Question 1 through 5 pertain to the following description and table:

An organization chooses to analyse the relationship between sales productivity of an employee and various other factors (specific to the employee). The table below describes some variables that are of interest:

Employee ID	Name	Gender (Female = 1, Male = 2)	Prior Work Experience (Yes = Y, No=N)	Salary (in ₹ per month)	Highest level of Education	Number of Promotions (within the organization)
132A	Xxxx	1	N	₹24,000	High school	3
119C	Xxxx	1	Y	₹33,000	Masters	2
...	Xxxx	2	Y	₹29,500	Bachelors	2
...	Xxxxx	2	N	₹37,000	Doctorate	2
...	...	...	...	...	...	...

1) What is the variable-type for the variable 'Gender'?

- Numerical, Continuous
- Quantitative, Discrete
- Categorical, Nominal
- Categorical, Ordinal

2) What is the variable-type for the variable 'Prior Work Experience'? ***1 point***

- Numerical, Continuous
- Quantitative, Discrete
- Categorical, Nominal
- Categorical, Ordinal

3) What is the variable-type for the variable 'salary'? ***1 point***

- Quantitative, Continuous
- Categorical, Nominal
- Qualitative, Ordinal
- Numerical, Ordinal

4) What is the variable-type for the variable 'Highest level of education'? ***1 point***

- Categorical, Ordinal
- Numerical, Discrete
- Quantitative, Continuous
- Quantitative, Nominal

5) What is the variable-type for the variable ‘Number of Promotions’? ***1 point***

- Categorical, Ordinal
- Qualitative, Nominal
- Quantitative, Continuous
- Numerical, Discrete

6) What is the best form of visually representing data when you have two continuous quantitative variables? You are interested in visually seeing the relationship between these variables. ***1 point***

- (•) Scatterplot/s
- ( ) Box plot
- ( ) Multiple box plots placed on the axis of one of the two continuous variables
- ( ) Contingency table

7)

1 point

We would like to characterize the performance of an College level swimming team (Team A) which has 10 members, for a specific event (the 50 metre Freestyle). We have the timings of these ten members from their practice. They are:

Member	Time (in Seconds)
1	28
2	25
3	27
4	25
5	29
6	26
7	23
8	63
9	24
10	26

An upcoming competition is going to conduct pairwise races between this team and a rival team (Team B). No one knows how the pairing is going to be achieved (a randomly selected swimmer from team A will race against a randomly selected swimmer from team B). You belong to team B, and in your practice you want to aim towards a time where you can defeat at least half the members of team A. Which measure of central tendency best captures the typical performance of the team A that you should use for this purpose.

- Median

- Mean
- Mode
- Mean Absolute Deviation(MAD)

8) We are a customer service call centre. When a caller calls, an agent is assigned to them and a recorded message puts them on hold. We are trying to provide a recorded message feature where as soon as a customer's call is picked up, we would like to mention to him/her the waiting time they should expect before their call will be answered. We would like to do this by looking at the number of callers ahead in the queue and multiply that with the typical time that each caller will take. What measure of central tendency is best suited to measure "the typical time that each caller will take"? We are also aware of the fact that there are some outliers. 90% of the calls get resolved in less than 1 minute, but 10% of the calls wind up taking close to 5 minutes. Assume that there are usually 10-30 callers waiting at each agent. ***1 point***

- Median
- Mean
- Mode
- Mean Absolute Deviation(MAD)

9) Question 9 through 14 pertain to the following description: ***1 point***

(If your answer is rs.10,000 , type 10000 in the text box provided and If your answer is rs.0 , type 0 in the text box provided)

A small accounting firm pays each of their five junior accountants ₹35,000, two senior accountants ₹80,000 and the firms owner ₹3,20,000 (all salaries are per month).

9) What is the mean salary paid per month at this firm?

81875

10) What is the median salary paid per month at this firm? ***1 point***

35000

11) How many employees earn less than the mean salary every month? ***1 point***

7

12) How many employees earn less than the median salary every month? ***1 point***

0

13) If the owner gets a salary hike and gets paid with the total salary of ₹4,55,000(per month), then what is the new mean? ***1 point***

98750

14) If the owner gets a salary hike and gets paid with the total salary of ₹4,55,000 per month, then what is the new median? ***1 point***

35000