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NPTEL

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Courses » Introduction to Data Analytics

Announcements

Course

Ask a Question

Progress



Unit 2 - Week 1 - Course Overview and Descriptive Statistics

Course outline

How to access the portal

Week 1 - Course Overview and Descriptive Statistics

- Course Overview
- Course Overview (cont'd)
- Descriptive Statistics - Graphical Approaches
- Descriptive Statistics - Measures of Central Tendency
- Descriptive Statistics - Measures of Dispersion
- Quiz : Assignment 1
- Feedback for week 1
- Assignment 1 Solution

Week 2 - Probability Distributions & Inferential Statistics

Week 3 - Inferential Statistics

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Assignment 1

The due date for submitting this assignment has passed. **Due on 2017-08-05, 23:55 IST.** As per our records you have not submitted this assignment.

1) In descriptive statistics, the aim is to: 1 point
(Note: multiple options may be correct)

- do the analysis of data that helps describe or show data in a meaningful way such that, for example, patterns might emerge from the data.
- use probability theory to learn about population from a sample data.
- quantitatively describe or summarize the data.
- describe the data by measures of central tendency and measures of variability
- all of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

do the analysis of data that helps describe or show data in a meaningful way such that, for example, patterns might emerge from the data.

quantitatively describe or summarize the data.

describe the data by measures of central tendency and measures of variability

2) Which of the following is a measure of dispersion: 1 point

- percentiles
- quartiles
- interquartile range.
- all of the above
- none of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

interquartile range.

3) In a statistical study, when data are collected only for a portion or subset of all the elements of interest, we are using: 1 point

- a sample
- a parameter
- a population
- (a) and (b)
- (b) and (c)

No, the answer is incorrect.

Score: 0

Learning

Week 5 -
Supervised
Learning
(Regression and
Classification
Techniques) - I

Week 6 :
Supervised
Learning
(Regression and
Classification
Techniques)-II

Week 7 -
Association Rule
Mining and Big
Data

Week 8 -
Clustering
Analysis and
Prescriptive
Analytics

Course
Summary+
Insight into the
Final Exam

Accepted Answers:*a sample*

4) To test the linear relationship between y (dependent) and x (independent) continuous variables, the best plot is: 1 point

- bar chart
- scatter plot
- histogram
- pie chart
- none of the above

No, the answer is incorrect.**Score: 0****Accepted Answers:***scatter plot*

5) The algebraic sum of deviations from the mean is:

- mean
- zero
- maximum
- minimum
- undefined

No, the answer is incorrect.**Score: 0****Accepted Answers:***zero*

6) In an agriculture research center, the scientists collected the past 20 years data of rainfall along with the crop yield. If they want to perform regression analysis on this data, which variable should they consider to be the independent variable and which one should they consider being the dependent variable? 1 point

- Independent variable: yield, Dependent variable: rainfall
- Independent variable: rainfall, Dependent variable: yield

No, the answer is incorrect.**Score: 0****Accepted Answers:***Independent variable: rainfall, Dependent variable: yield*

7) In a glass production house, John recorded the temperature values in degree Celsius. After working out he came to know that mean of the data is 28.6degree C and variance is $4.0(\text{degree C})^2$. If the data values were converted to Fahrenheit (F), **what would be the values of mean and variance?** We use the following formula to convert a temperature value from degrees Celsius (C) to Fahrenheit (F)

$$F = \frac{9}{5}C + 32$$

- mean = 28.6 degree F and variance = $4.0(\text{degree F})^2$
- mean = 57.2 degree F and variance = $8.0(\text{degree F})^2$
- mean = 87.22 degree F and variance = $16.38(\text{degree F})^2$
- mean = 83.48 degree F and variance = $12.96(\text{degree F})^2$

No, the answer is incorrect.**Score: 0****Accepted Answers:***mean = 83.48 degree F and variance = $12.96(\text{degree F})^2$* 

8) If a data set has even number of observations. Then median of the data set:

1 point

- cannot be calculated
- is equal to the mean
- is average of the two middle items
- is one of the two middle items, chosen at random
- none of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

is average of the two middle items

9) In a given data set of 100 observations, if the largest value is doubled, which of the following option is/are false? (assume that largest value is non zero)
(Note: multiple options may be correct)

0 point

- the variance increases
- the mean increases
- the median increases
- the IQR increases
- the range increases

No, the answer is incorrect.

Score: 0

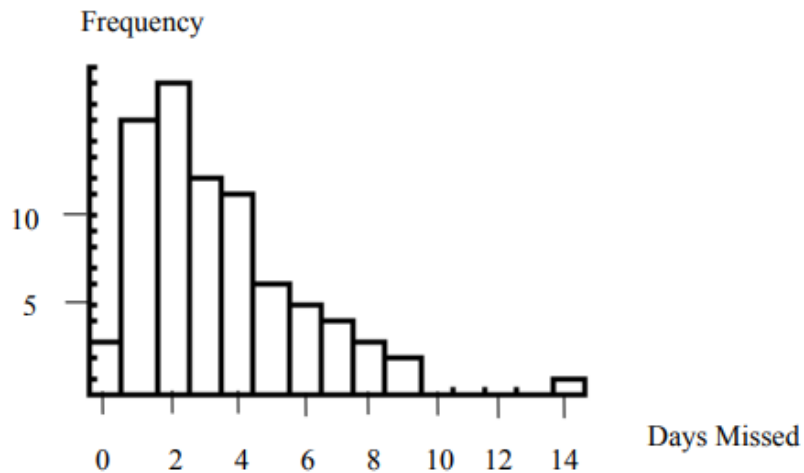
Accepted Answers:

the median increases

the IQR increases

10) A Boeing 747 passenger aircraft gets cancelled while severe snowstorms. The following histogram shows the number of days missed (per year) in last 75 years. Which of the following should you use as a measure to describe the center of the distribution?

1 point



- mean, because it covers information from all 75 years
- IQR, because it is unaffected by the outliers
- median, because the distribution is skewed to the right
- standard deviation, because it is unaffected by outliers and the distribution is skewed

No, the answer is incorrect.

Score: 0

Accepted Answers:

median, because the distribution is skewed to the right

Solutions for assignment 1:

<https://drive.google.com/file/d/0BwLesDk8tgZVWER6ekxteWQzZEE/view?usp=sharing>

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