Statistics Worksheet-2

Q1 to Q15 have only one correct answer. Choose the correct option to answer your question.

1. What represent a population parameter?
C) both

2. What will be median of following set of scores (18,6,12,10,15)?
C) 12

3. What is standard deviation?
D) All of the above

4. The intervals should be _____ in a grouped frequency distribution
A) Exhaustive

5. What is the goal of descriptive statistics?
B) Summarizing and explaining a specific set of data

6. A set of data organized in a participant by variables format is called
B) Data set

7. In multiple regression,_____ independent variables are used
B) 2

8. Which of the following is used when you want to visually examine the relationship between 2 quantitative
variables?
B) Scatterplot

9. Two or more groups means are compared by using
D) Analysis of variance

10. _____is a raw score which has been transformed into standard deviation units?
A) Z-score

11. _____is the value calculated when you want the arithmetic average?
C) mean

12. Find the mean of these set of number (4,6,7,9,2000000)?
D) 400005.2

13. _____ is a measure of central tendency that takes into account the magnitude of scores?
C) Median

14. _____ focuses on describing or explaining data whereas _____involves going beyond immediate
data and making inferences
A) Descriptive and inferences

15. What is the formula for range?
D) H-L

SQL_WORKSHEET_2

Q1 to Q13 have only one correct answer. Choose the correct option to answer your question.

1. Which of the following constraint requires that there should not be duplicate entries?
D) Unique

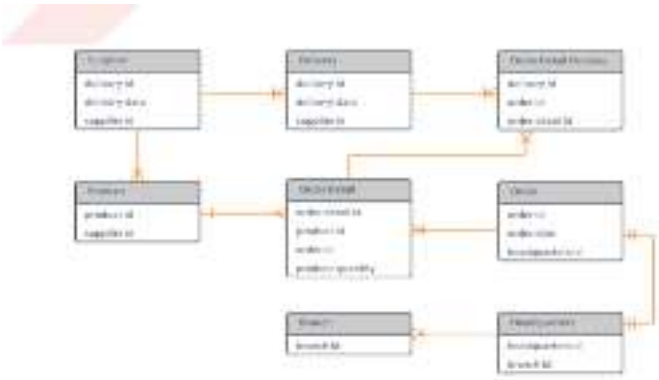
2. Which of the following constraint allows null values in a column?
D) None of them

3. Which of the following statements are true regarding Primary Key?
A) Each entry in the primary key uniquely identifies each entry or row in the table

4. Which of the following statements are true regarding Unique Key?
D) All of the above

5. Which of the following is/are example of referential constraint?
B) Foreign Key

For Questions 6-13 refer to the below diagram and answer the questions:



6. How many foreign keys are there in the Supplier table?
D) 1

7. The type of relationship between Supplier table and Product table is:
C) one to one

8. The type of relationship between Order table and Headquarter table is:
D) many to many

9. Which of the following is a foreign key in Delivery table?
A) delivery id

10. The number of foreign keys in order details is:
D) 2

11. The type of relationship between Order Detail table and Product table is:
A) one to many

12. DDL statements perform operation on which of the following database objects?
D) None of them

13. Which of the following statement is used to enter rows in a table?
A) Insert in to

Q14 and Q15 have one or more correct answer. Choose all the correct option to answer your question.

14. Which of the following is/are entity constraints in SQL?
B) Unique
C) Primary Key

15. Which of the following statements is an example of semantic Constraint?
A) A blood group can contain one of the following values - A, B, AB and O.
B) A blood group can only contain characters

Machine Learning Assignment-2

Q1 to Q11 have only one correct answer. Choose the correct option to answer your question.

1. Movie Recommendation systems are an example of:
i) Classification
ii) Clustering
iii) Regression
Options:
d) 2 and 3

2. Sentiment Analysis is an example of:
i) Regression
ii) Classification
iii) Clustering
iv) Reinforcement
Options:
b) 1 and 2

3. Can decision trees be used for performing clustering?
a) True

4. Which of the following is the most appropriate strategy for data cleaning before performing clustering
analysis, given less than desirable number of data points:
i) Capping and flooring of variables
ii) Removal of outliers
Options:
a) 1 only

5. What is the minimum no. of variables/ features required to perform clustering?
b) 1

6. For two runs of K-Mean clustering is it expected to get same clustering results?
b) No

7. Is it possible that Assignment of observations to clusters does not change between successive
iterations in K-Means?
a) Yes

8. Which of the following can act as possible termination conditions in K-Means?
i) For a fixed number of iterations.
ii) Assignment of observations to clusters does not change between iterations. Except for cases

witha bad local minimum.
iii) Centroids do not change between successive iterations.
iv) Terminate when RSS falls below a threshold.
Options:
d) All of the above

9. Which of the following algorithms is most sensitive to outliers?
a) K-means clustering algorithm

10. How can Clustering (Unsupervised Learning) be used to improve the accuracy of Linear Regression
model (Supervised Learning):
i) Creating different models for different cluster groups.
ii) Creating an input feature for cluster ids as an ordinal variable.
iii) Creating an input feature for cluster centroids as a continuous variable.
iv) Creating an input feature for cluster size as a continuous variable.
Options:
d) All of the above

11. What could be the possible reason(s) for producing two different dendrograms using agglomerative
clustering algorithms for the same dataset?
d) All of the above

Q12 to Q14 are subjective answers type questions, Answers them in their own words briefly

12. Is K sensitive to outliers?
Ans - The K-means clustering algorithm is sensitive to outliers, because a mean is easily influenced by extreme values. K-medoids clustering is a variant of K-means that is more robust to noises and outliers.

13. Why is K means better?
Ans - Guarantees convergence. Can warm-start the positions of centroids. Easily adapts to new examples. Generalizes to clusters of different shapes and sizes, such as elliptical clusters.
Advantages of K-means - It is very simple to implement. It is scalable to a huge data set and also faster to large datasets. it adapts the new examples very frequently. Generalization of clusters for different shapes and sizes

14. Is K means a deterministic algorithm
Ans - One of the significant drawbacks of K-Means is its non-deterministic nature. K-Means starts with a random set of data points as initial centroids. This random selection influences the quality of the resulting clusters. Besides, each run of the algorithm for the same dataset may yield a different output.