

# Machine learning

## answers

1. 4
2. 1,2 and 4
3. Formulating the clustering problem
4. Euclidean distance
5. Divisive clustering
6. All answers are correct
7. Divide the data point into groups
8. Unsupervised learning
9. k-means clustering
10. K-means clustering algorithm
11. All of the above
12. Labeled data
13. It is calculated by measuring the distance between each data point and its squaring across the distance, and summing these squares across one cluster
14. To measure the quality of a clustering, we can use the average silhouette coefficient value of all objects in the data set.

15. In this technique which group the unlabeled data set. Cluster analysis is a data analysis technique. Cluster analysis doesn't need to group data points into any predefined group which means that it is an unsupervised learning.

### Types of Clustering

Centroid-based Clustering.

Density-based Clustering.

Distribution-based Clustering.

Hierarchical Clustering.

## Statistics worksheet

1. True
2. Central limit theorem
3. Modeling bounded count data
4. All the mentioned
5. Poisson
6. False
7. Hypothesis
8. 0

9. None of the mentioned

10. **Normal distribution** – normal distribution is a type of continuous distribution in which most data points cluster toward the middle of the range. The middle of the range is also known as the mean of the distribution

11. Handling missing values is the deletion of the rows and columns having null values. If any column has more than half of the values as null, then you can drop the entire column. In the same way, rows can also be dropped if having one or more columns' values as null.

And the imputation techniques: The simplest imputation method is replacing missing values with the mean or median values of the dataset at large, or some similar summary statistic.

12. A/B testing, also known as split testing, refers to a randomized experimentation process wherein two or more versions of a variable (web page, page element, etc.) although the concept can be also extended to multiple variants of the same variable.

13. The process of replacing null values in a data collection with the data's mean is known as mean imputation.

Second, mean imputation decreases the variance of our data while increasing bias. As a result of the reduced variance, the model is less accurate and the confidence interval is narrower.

14. Linear regression analysis is used to predict the value of a variable based on the value of another variable. The variable you want to predict is called the dependent variable.

15. There are three real branches of statistics: data collection, descriptive statistics and inferential statistics.