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Class Test/Quiz

Q1. Is finding the Price of House an example of Linear Regression ? if yes why ?
A. Yes, finding the price of a house can be an example of linear regression. Linear regression is a statistical method used to model the relationship between a dependent variable (the house price) and one or more independent variables (such as size, location, number of bedrooms, etc.).

Q2. How would you find the Price of a House given some data about other house prices in the same locality ?
A. I would use a Linear Regression model by training it on the given data (features like size, number of bedrooms, etc.) and their corresponding prices. The model would then learn the relationships between these features and house prices. The trained model can then be used to predict the price of a new house based on its characteristics.

Q3. How do you find the best fit line in a Linear Regression Model ?
(Hint : you calculate the Error called Gradient Descent or Least Squares)
A. In Linear Regression, the best fit line is found by the Least Squares Method (minimizing the sum of the squared differences between the actual data points and the predicted values). Techniques like Least Squares or Gradient Descent are used to reduce the overall error and make the line fit the data as accurately as possible.

Q4. How to detect Spam mails ?
(Hint : type in your own words the concept as seen in the video. By the way its Naive Bayes Algorithm)
A. To detect spam emails, we can use the Naive Bayes Algorithm, which is a probability-based method. It checks for certain keywords and patterns in the email like:
The word "cheap" (80% chance of spam)
Spelling mistakes (70%)
Missing title (95%)
Using this data, the algorithm calculates the probability that an email is spam

Q5. How does Google Play store Recommend Apps to us ?
(Hint : it Recommends Apps using Decision Tree Algorithm)
A. Google Play Store recommends apps using the Decision Tree Algorithm, which splits user preferences and app features into branches. Based on user activity and patterns, past app usage, ratings, reviews, downloads, it predicts and recommends apps that the user is most likely to download.

Q6. Domino's wants to open 2 new outlets in your locality, how would you help them in shortlisting the best location.
(Hint : In your ans. explain briefly about K-means clustering and hierarchical clustering)
A. I would use K-means clustering to group areas based on factors like customer density and order frequency, and identify the central points of the top clusters as ideal locations. Alternatively, Hierarchical clustering can show how areas are related in a tree-like structure, helping to find locations with the highest potential demand.

Q7. In Supervised Learning the out labels are called as _____ ?
Options :
a. features
b. target variable
Ans: b. target variable

Q8. Clustering is an example of b. Un-Supervised _____ Learning ?
Options :
a. Supervised
b. Un-Supervised
Ans: b. Un-Supervised

Q9. You are given weather forecast, and the visitors to the beach. The goal in supervised learning would be to learn the mapping that describes the relationship between _____ and number of beach visitors.
Options :
a. sunglasses
b. temperature
Ans: b. temperature

Q10. Regression is used in financial trading to find the patterns in stocks and other assets to decide when to buy/sell and make a profit.
Options :
a. true
b. false
Ans: a. true