ALGORITHM

Objective:-

Predicting house prices using machine learning typically involves a supervised regression task.

Step 1: Data Collection

- Gather a dataset that includes historical information about houses, such as features (square footage, number of bedrooms, location, etc.) and their corresponding sale prices.

Step 2: Data Preprocessing

- Handle missing data, outliers, and duplicates.
- Encode categorical features (e.g., one-hot encoding or label encoding).
- Split the data into a training set and a testing/validation set.

Step 3: Feature Selection/Engineering

- Select relevant features that influence house prices.
- Create new features or transform existing ones if necessary (e.g., feature scaling, normalization).

Step 4: Choose a Machine Learning Algorithm

- Select a regression algorithm. Common choices include Linear Regression, Decision Trees, Random Forest, Gradient Boosting, or even deep learning methods like Neural Networks.

Step 5: Train the Model

- Use the training data to train the selected algorithm. The model learns the relationship between house features and their prices.

Step 6: Model Evaluation

- Use the testing/validation set to evaluate the model's performance. Common regression metrics include Mean Absolute Error (MAE), Mean Squared Error (MSE), and Root Mean Squared Error (RMSE).

Step 7: Hyperparameter Tuning

- Fine-tune the model's hyperparameters to improve its performance. Techniques like cross-validation can be helpful.

Step 8: Model Deployment

- Once you're satisfied with the model's performance, deploy it for predictions.

Step 9: Predict House Prices

- Input the features of a house you want to predict the price for into the trained model.
- The model will provide an estimated house price as the output.

Step 10: Regular Updates

- Periodically update the model with new data to keep it accurate as the housing market changes.

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