Project 9: HOUSE PRICE PREDICTIONUSING MACHINE LEARNING

Project Title: Predict House Price Using Machine Learning

**Problem Statement**: In this part you will need to understand the problem statement and create a document on what have understood and how will you proceed ahead with solving the problem. please think on a design and present in form of a document.

**Problem Definition**: The problem is to predict house prices using machine learning techniques. The objective is to develop a model that accurately predicts the house prices based on a set of features such as location, square footage , number of bedrooms and bathroom , and other relevant factors. This project involves data preprocessing, feature engineering , model selection, training and evaluation.

Design Thinking

**1: Data source**

Data processing techniques and processes are numerous. We collected data for USA/Mumbai real estate properties from various real estate websites. The data would be having attributes such as Location, carpet area, built-up area, age of the property, zip code, price, no of bedrooms etc.

**2: Data preprocessing**

Data preprocessing is the process of cleaning our data set. There might be missing values or outliers in the dataset. These can be handled by data cleaning. If there are many missing values in a variable we will drop those values or substitute it with the average value.

**3:Feature Selection**

Select the most relevant features for predicting house prices

**4. Model selection:**

Choose a suitable regression algorithm(eg.Linear regression ,Random Forest Regressor ) for predicting house prices.

5: Training the model

Since the data is broken down into two modules: a Training set and Test set, we must initially train the model. The training set includes the target variable. The decision tree regressor algorithm is applied to the training data set.

**6: Evaluation**

Evaluate the models performance using matrices like Mean Absolute Error (MAE), Root Mean Squared Error (RMSE), and R-squared.