## Predicting House Prices using Machine Learning

**Problem Definition:**

The problem is to predict house prices using machine learning techniques. The objective is to develop a model that accurately predicts the prices of houses based on a set of features such as location, square footage, number of bedrooms and bathrooms, and other relevant factors. Using Machine learning ,we can easily find the house which is to be prefect for us and to predict the prices accurately. This project involves data preprocessing, feature engineering, model selection, training, and evaluation.

**Design Thinking:**

**Data Source:** Data processing techniques and processes are numerous. Choose a dataset containing information about houses, including features like location, square footage, bedrooms, bathrooms, and price.

**Data Preprocessing:** Data preprocessing is the process of cleaning our data set. Clean and preprocess the data, handle missing values, and convert categorical features into numerical representations.

**Feature Selection:** Select the most relevant features for predicting house prices.

**Model Selection:** Choose a suitable regression algorithm (e.g., Linear Regression, Random Forest Regressor) for predicting house prices.

**Model Training:** Train the selected model using the preprocessed data. 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.

**Evaluation:** Evaluate the model's performance using metrics like Mean Absolute Error (MAE), Root Mean Squared Error (RMSE), and R-squared.

**Dataset Link:** https://www.kaggle.com/datasets/vedavyasv/usa-housing