**Project Title**: ***Predicting House Prices using Machine Learning***

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

**Project Steps**

**Phase 1: Problem Definition and Design Thinking**

In this part you will need to understand the problem statement and create a document on what have you 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 prices of houses based on a set of features such as location, square footage, number of bedrooms and bathrooms, and other relevant factors. This project involves data preprocessing, feature engineering, model selection, training, and evaluation.

**Design Thinking**:

* **Data Source:** Choose a dataset containing information about houses, including features like location, square footage, bedrooms, bathrooms, and price.
* **Data Preprocessing:** 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.
* **Evaluation:** Evaluate the model's performance using metrics like Mean Absolute Error (MAE), Root Mean Squared Error (RMSE), and R-squared.