

# Day-11 | House price prediction using Linear Regression-SingleVariable

## *Import Libraries*

```
In [ ]: import pandas as pd
        from sklearn.linear_model import LinearRegression
        import matplotlib.pyplot as plt
```

## *Load Dataset from Local Directory*

```
In [ ]: from google.colab import files
        uploaded = files.upload()
```

## *Load Dataset*

```
In [ ]: dataset = pd.read_csv('dataset.csv')
```

## *Load Summarize*

```
In [ ]: print(dataset.shape)
        print(dataset.head(5))
```

## *Visualize Dataset*

```
In [ ]: plt.xlabel('Area')
        plt.ylabel('Price')
        plt.scatter(dataset.area,dataset.price,color='red',marker='*')
```

## *Segregate Dataset into Input X & Output Y*

```
In [ ]: X = dataset.drop('price',axis='columns')
        X
```

```
In [ ]: Y = dataset.price
        Y
```

## *Training Dataset using Linear Regression*

```
In [ ]: model = LinearRegression()
        model.fit(X,Y)
```

### ***Predicted Price for Land sq.Feet of custom values***

```
In [ ]: x=40000
        LandAreaInSqFt=[[x]]
        PredictedmodelResult = model.predict(LandAreaInSqFt)
        print(PredictedmodelResult)
```

**Let's check is our model is Right ?**

### **Theory Calculation**

**$Y = m * X + b$  (m is coefficient and b is intercept)**

*Coefficient - m*

```
In [ ]: m=model.coef_
        print(m)
```

*Intercept - b*

```
In [ ]: b=model.intercept_
        print(b)
```

**$Y=mx+b$**

*x is Independent variable - Input - area*

```
In [ ]: y = m*x + b
        print("The Price of {0} Square feet Land is: {1}".format(x,y[0]))
```