



# HOUSE PRICE PREDICTION

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# INTRODUCTION:

House price prediction can help the developer determine the selling price of a house and can help the customer to arrange the right time to purchase a house. There are three factors that influence the price of a house which include physical conditions, concept and location.



# PROBLEM STATEMENT:

- This work considers the issue of changing house price as a classification problem and discuss machine learning techniques to predict whether house prices will rise or fall using available data.
- The focus is to create an "easy to use" website, which will allow a first time customer to complete their needs with ease.

# DATASET:

BHK	Rent	Size	Floor	Area Type	Area Locality	City	Furnishing Status	Tenant Preferred	Bathroom	Point of Contact
			Ground out							
2	10000	1100	of 2	Super Area	Bandel	Kolkata	Unfurnished	Bachelors/Family	2	Contact Owner
2	20000	800	1 out of 3	Super Area	Phool Bagan, Kankurgachi	Kolkata	Semi-Furnished	Bachelors/Family	1	Contact Owner
2	17000	1000	1 out of 3	Super Area	Salt Lake City Sector 2	Kolkata	Semi-Furnished	Bachelors/Family	1	Contact Owner
2	10000	800	1 out of 2	Super Area	Dumdum Park	Kolkata	Unfurnished	Bachelors/Family	1	Contact Owner
2	7500	850	1 out of 2	Carpet Area	South Dum Dum	Kolkata	Unfurnished	Bachelors	1	Contact Owner
			Ground out							
2	7000	600	of 1	Super Area	Thakurpukur	Kolkata	Unfurnished	Bachelors/Family	2	Contact Owner
			Ground out							
2	10000	700	of 4	Super Area	Malancha	Kolkata	Unfurnished	Bachelors	2	Contact Agent
1	5000	250	1 out of 2	Super Area	Malancha	Kolkata	Unfurnished	Bachelors	1	Contact Agent
2	26000	800	1 out of 2	Carpet Area	Palm Avenue Kolkata, Ballygunge	Kolkata	Unfurnished	Bachelors	2	Contact Agent

# EXPLORATORY DATA ANALYSIS:

The output of the **df.info()** method can be helpful for understanding the structure of the Data Frame and the data types of the columns.

This information can be useful for performing data analysis and visualization.

```
class 'pandas.core.frame.DataFrame'>
RangeIndex: 4746 entries, 0 to 4745
Data columns (total 12 columns):
   Column                Non-Null Count  Dtype
-----
Posted On              4746 non-null   object
BHK                    4746 non-null   int64
Rent                   4746 non-null   int64
Size                   4746 non-null   int64
Floor                  4746 non-null   object
Area Type              4746 non-null   object
Area Locality          4746 non-null   object
City                   4746 non-null   object
Furnishing Status      4746 non-null   object
Tenant Preferred       4746 non-null   object
Bathroom               4746 non-null   int64
Point of Contact       4746 non-null   object
dtypes: int64(4), object(8)
memory usage: 445.1+ KB
```

# AIM AND IMPORTANCE:

These are the Parameters on which we will evaluate ourselves-

- Create an effective price prediction model
- Validate the model's prediction accuracy
- Identify the important home price attributes which feed the model's predictive power.

# LINEAR REGRESSION:

- Linear regression is an algorithm used to predict values that are continuous in nature.
- Linear Regression is a machine learning algorithm based on supervised learning. • It performs a regression task.
- Regression models a target prediction value based on independent variables.
- It is mostly used for finding out the relationship between variables and forecasting

## CONCLUSION:

So, our Aim is achieved as we have successfully ticked all our parameters as mentioned in our Aim Column. It is seen that circle rate is the most effective attribute in predicting the house price and that the Linear Regression is the most effective model for our Dataset with RMSE score of 0.872424496906353