

Assignment 3 (Project)

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Mumbai Housing Prediction:

- 1) To begin with we load the .xlsx library and used read.xlsx() method to read the dataset into data-frame and divided it into test and train data using sample method in R.
- 2) After which we applied multiple linear regression model using lm() inbuilt method on train data and estimated the coefficients and test of significance for various attributes which is shown by summary() method.
- 3) Then we calculated the value which is 0.9017959 (approx.) for the test data by applying following formulae

$$R^2 = 1 - \frac{SS_{res}}{SS_T}$$

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- 4) We have removed the multicollinearity of the attributes by analyzing the covariance matrix which was calculated by `cor()` function using Pearson method.
 - 5) After removing the multicollinearity, we again rebuild our regression model on the train data and used that model for test-data prediction. Then again we calculated value which was coming out to be: 0.8674725 (approx.)