**1. OLS (Ordinary Least Squares that algorithm used here)**

**(Regression Analysis - Single Linear Regression)**

**Note:- Use Shift + Enter command for execution.**

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|  |
|  |

**cell 1:- (Just Shift + Enter, No need to write below code)**

**from sklearn.datasets import load\_boston**

**import pandas as pd**

**boston = load\_boston()**

**dataset = pd.DataFrame(data=boston.data, columns=boston.feature\_names)**

**dataset['target'] = boston.target**

**print(dataset.head())**

**Cell 2:-**

**###Start code here**

**X = dataset['RM']**

**Y = dataset['target']**

**###End code(approx 2 lines)**

**(shift + enter)**

**Cell 3:-**

**###Start code here**

**import statsmodels.api as sm**

**###End code(approx 1 line)**

**(shift + enter)**

**Cell 4:-**

**###Start code here**

**X =  sm.add\_constant(X)**

**statsModel = sm.OLS(Y,X)**

**fittedModel = statsModel.fit()**

**###End code(approx 2 lines)**

**(Shift + Enter)**

**Cell 5:-**

**###Start code here**

**print(fittedModel.summary())**

**###End code(approx 1 line)**

**(Shift + Enter)**

**Cell 6:-**

**###Start code here**

**r\_squared = 0.90**

**###End code(approx 1 line)**

**(Shift + Enter)**

**Cell 7:-  (Just Shift + Enter no need to write below code)**

**import hashlib**

**import pickle**

**def gethex(ovalue):**

**hexresult=hashlib.md5(str(ovalue).encode())**

**return hexresult.hexdigest()**

**def pickle\_ans1(value):**

**hexresult=gethex(value)**

**with open('ans/output1.pkl', 'wb') as file:**

**hexresult=gethex(value)**

**print(hexresult)**

**pickle.dump(hexresult,file)**

**pickle\_ans1(r\_squared)**