**31.How to make prediction in multiple linear regression using statsmodel library in python?**

**Objective:**

* To make prediction for multiple regression model using python.

**Process:**

* Import necessary libraries.
* Load the sample data set.
* Assign the independent(X) and dependent(y) variables.
* Build the regression model.
* Make prediction.

**Input:**

* Data set(sample).

**Output:**

* Predicted value of Y according to X.

**Source code:**

#import libraries

import statsmodels.api as sm

import pandas as pd

#read the data set

data=pd.read\_csv('/home/soft27/soft27/Sathish/

Pythonfiles/Employee.csv')

#creating data frame

df=pd.DataFrame(data)

print(df)

#assigning the independent variable

X = df[['rating','bonus']]

#assigning the dependent variable

Y = df['salary']

#Build multiple linear regression

X = sm.add\_constant(X)

#fit the variables in to the linear model

model = sm.OLS(Y, X).fit()

#print the intercept and regression co-efficients

print\_model = model.summary()

print(print\_model)

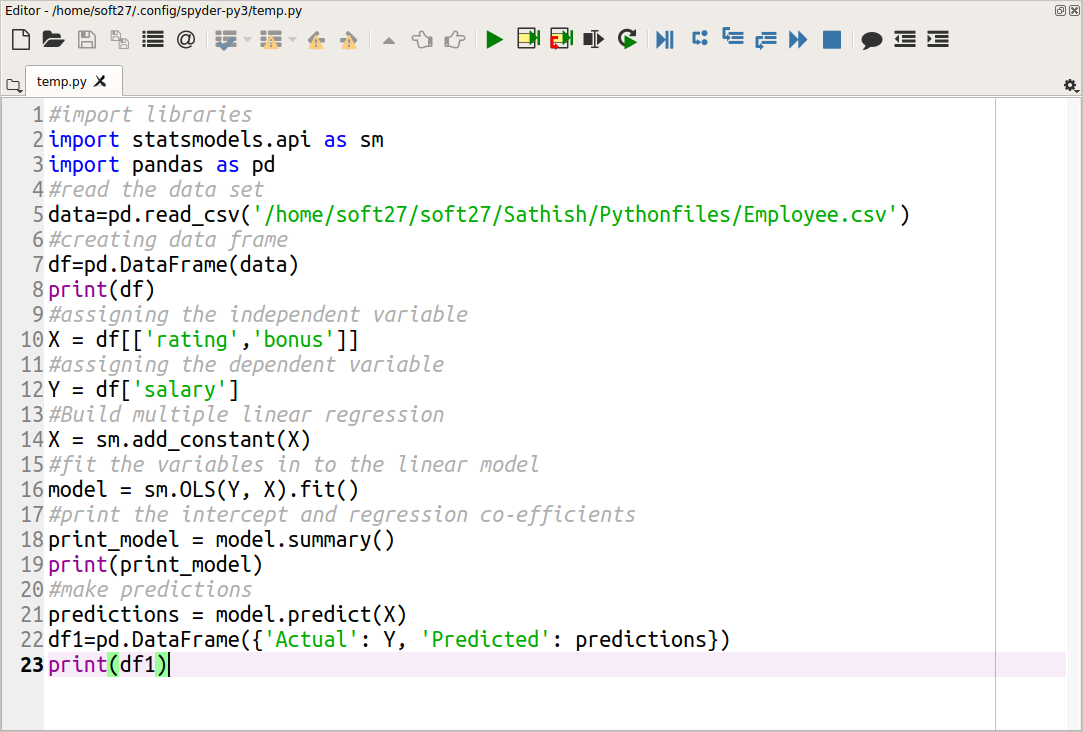
#make predictions

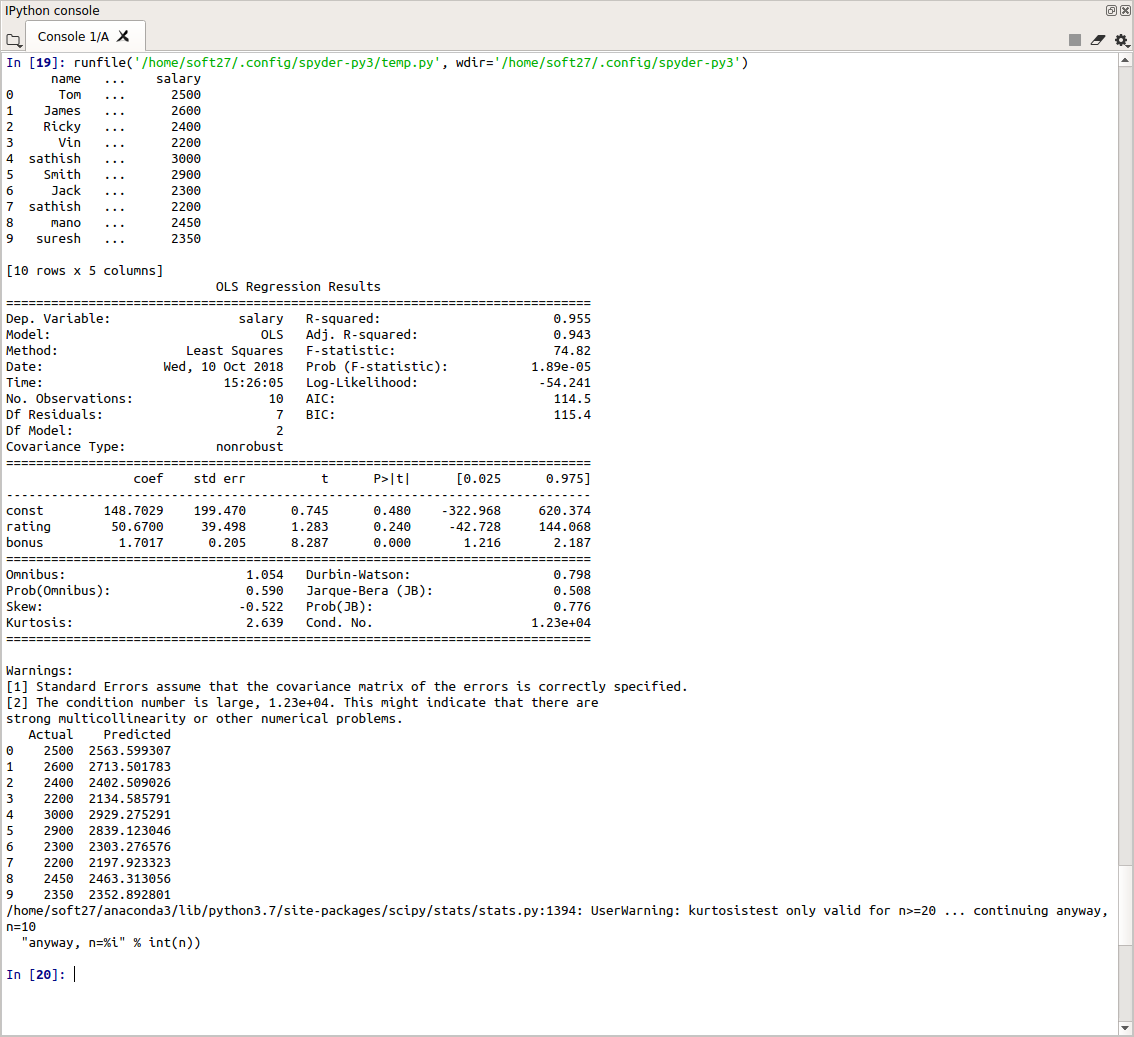
predictions = model.predict(X)

df1=pd.DataFrame({'Actual': Y, 'Predicted': predictions})

print(df1)

**Screen shot:**

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