**49.How to build logistic regression model for train data set using python?**

**Objective:**

* To build a logistic regression model for given data set in python.

**Process:**

* Import libraries.
* Read the sample data.
* Define X and y variables.
* Build the logistic regression model.
* Split the sample data into training and test data.
* Fit the training data into the regression model.

**Input:**

* Data set(csv file).

**Output:**

* Summary of logistic regression model for training data.

**Source code:**

#import libraries

import statsmodels.api as sm

import pandas as pd

from sklearn.model\_selection import train\_test\_split

#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['logo']

#split data in training and test data

X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, test\_size=0.3, random\_state=0)

print(X\_train)

print(y\_train)

#build the model

model = sm.Logit(y\_train, X\_train)

#fit the model

result = model.fit()

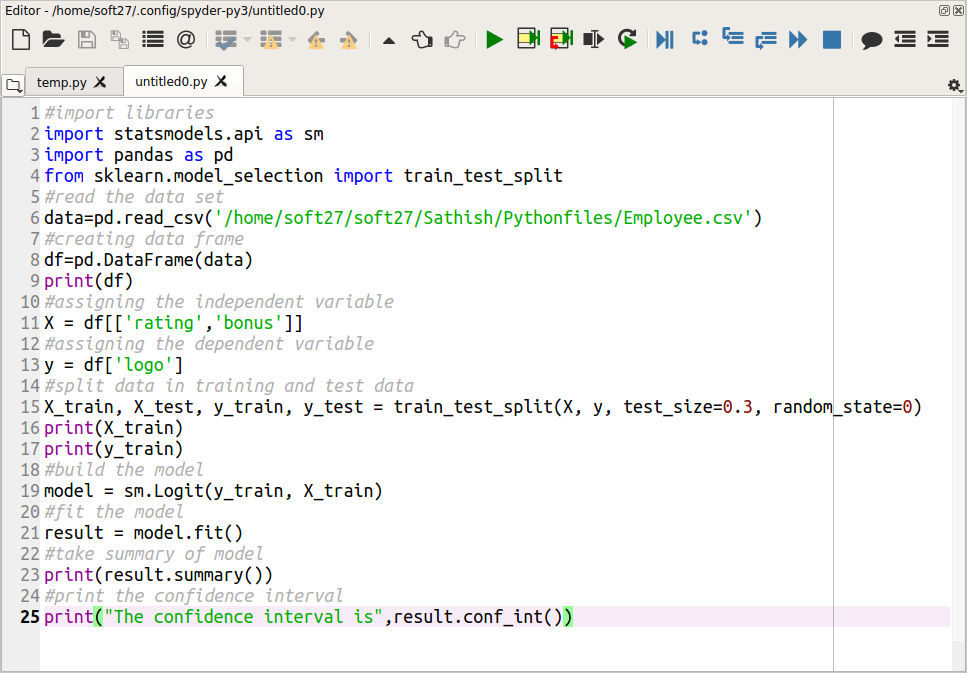
#take summary of model

print(result.summary())

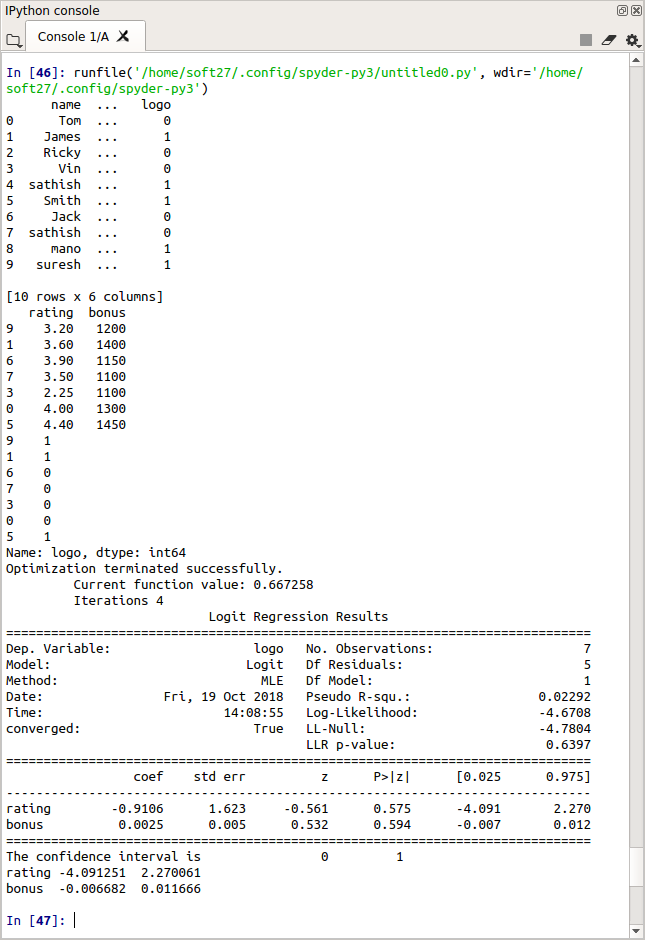
#print the confidence interval

print("The confidence interval is",result.conf\_int())

**Screen shot:**

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**Output:**

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