Stock prediction:

import numpy as np

import pandas as pd

import matplotlib.pyplot as plt

import seaborn as sb

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

from sklearn.preprocessing import StandardScaler

from sklearn.linear\_model import LogisticRegression

from sklearn.svm import SVC

from xgboost import XGBClassifier

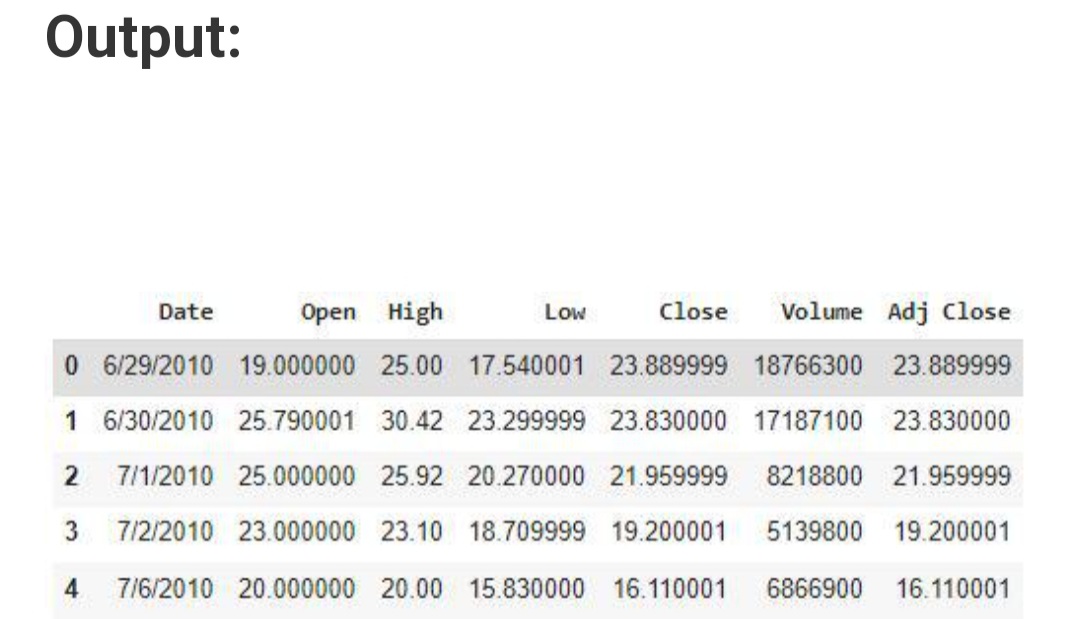
from sklearn import metrics

import warnings

warnings.filterwarnings('ignore')

df = pd.read\_csv('/content/Tesla.csv')

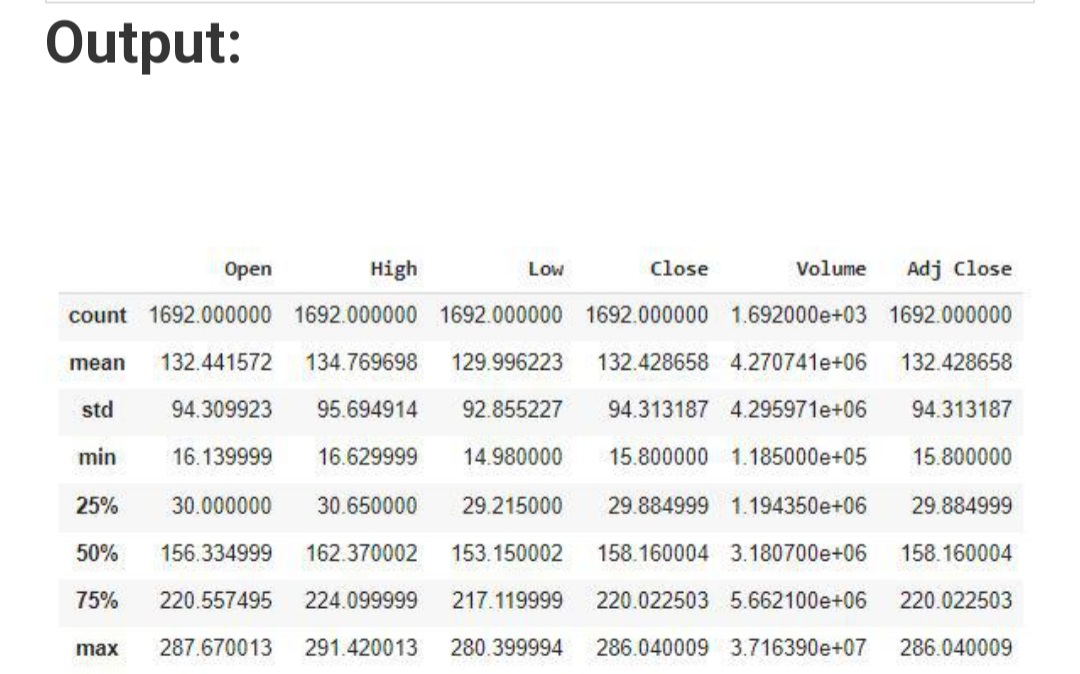
df.head()

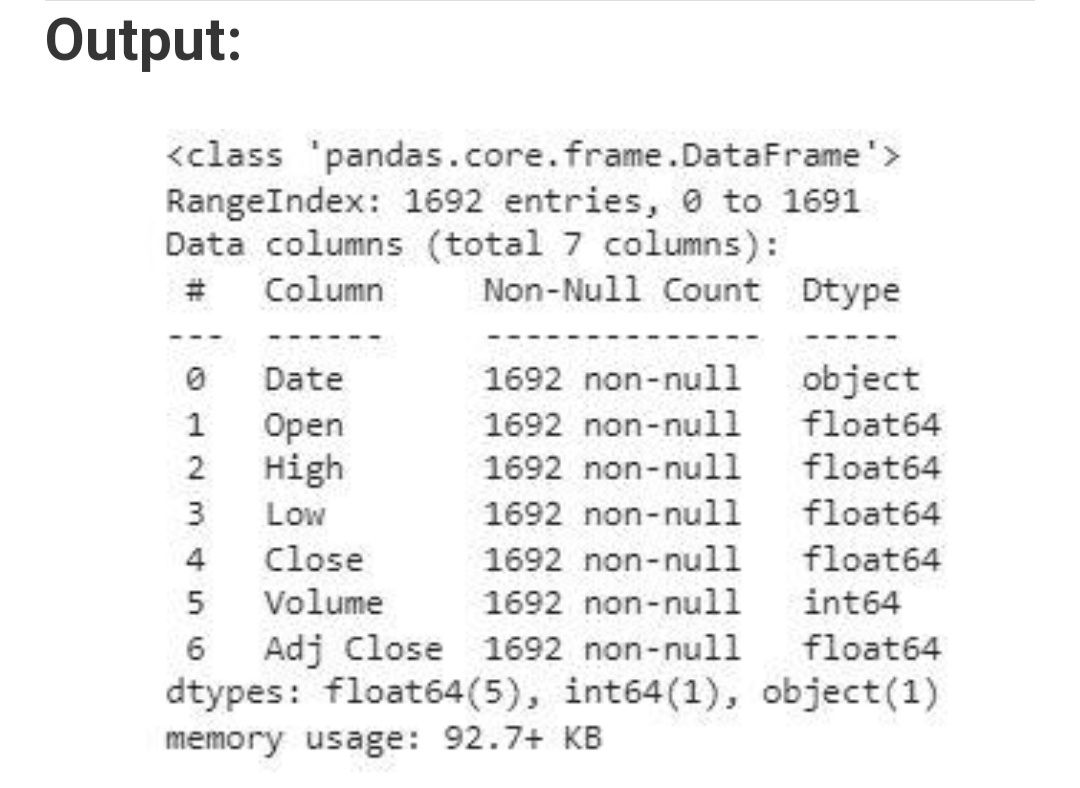


df.shape

Output:

(1692, 7)



df.info()

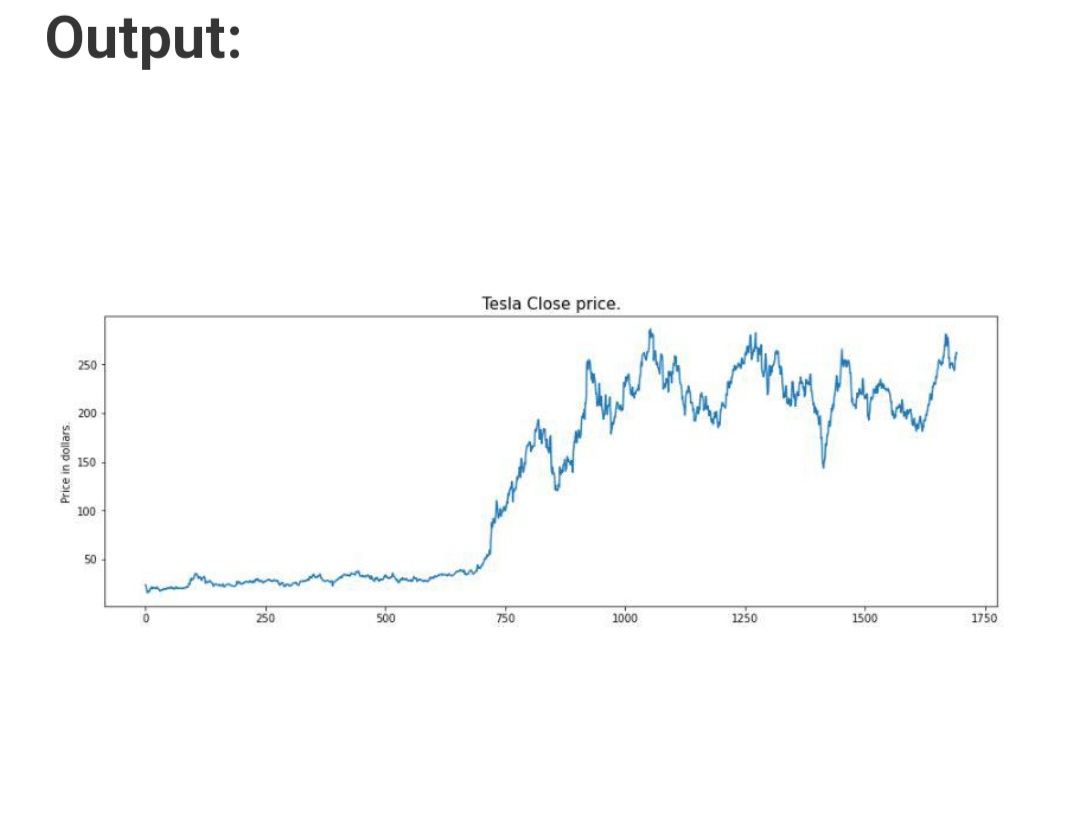
plt.figure(figsize=(15,5))

plt.plot(df['Close'])

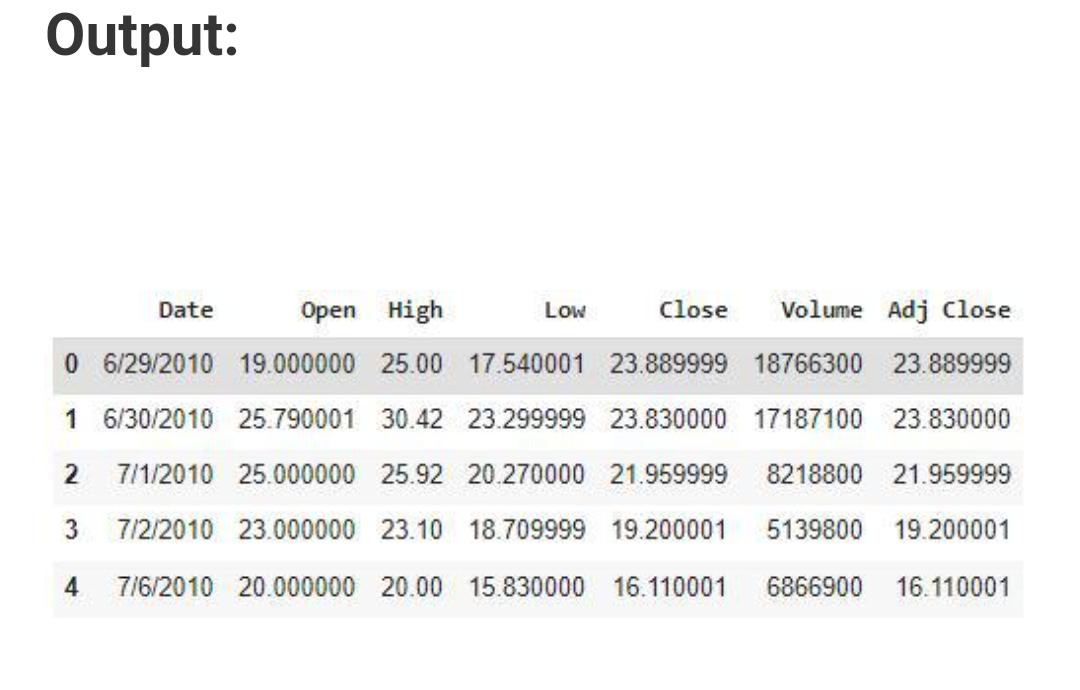
plt.title('Tesla Close price.', fontsize=15)

plt.ylabel('Price in dollars.')

plt.show()



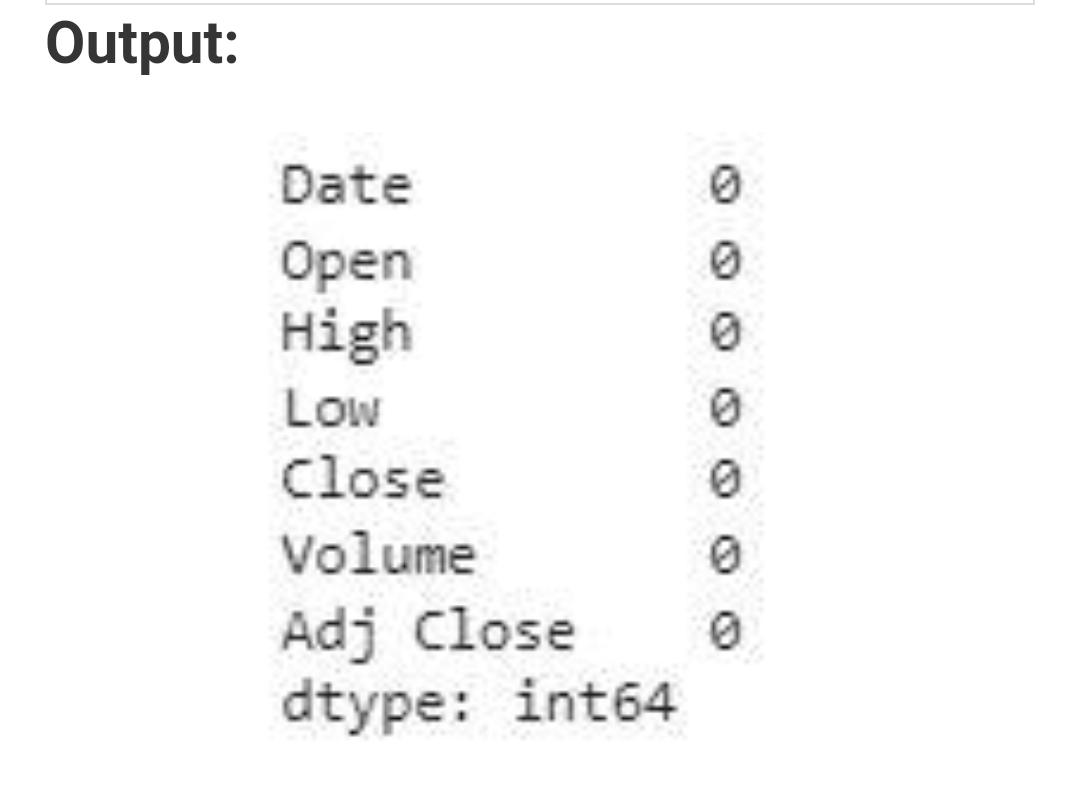
df.head()



df[df['Close'] == df['Adj Close']

Output:

(1692, 7)



features = ['Open', 'High', 'Low', 'Close', 'Volume']

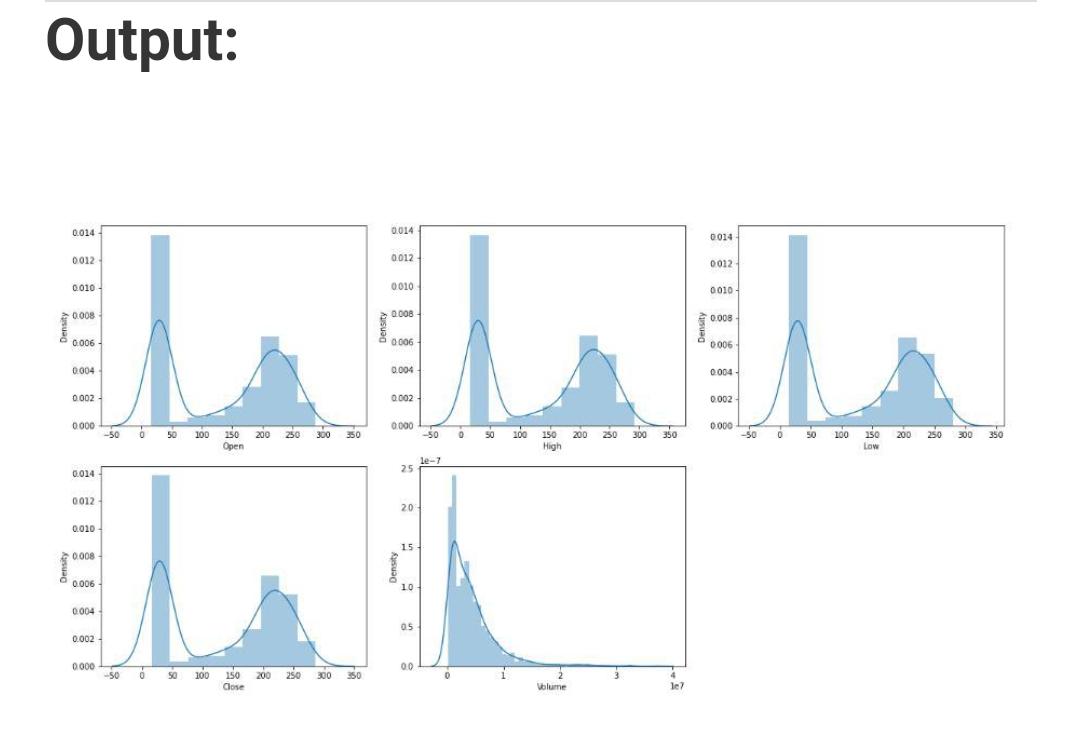
plt.subplots(figsize=(20,10))

for i, col in enumerate(features):

  plt.subplot(2,3,i+1)

sb.distplot(df[col])

plt.show()



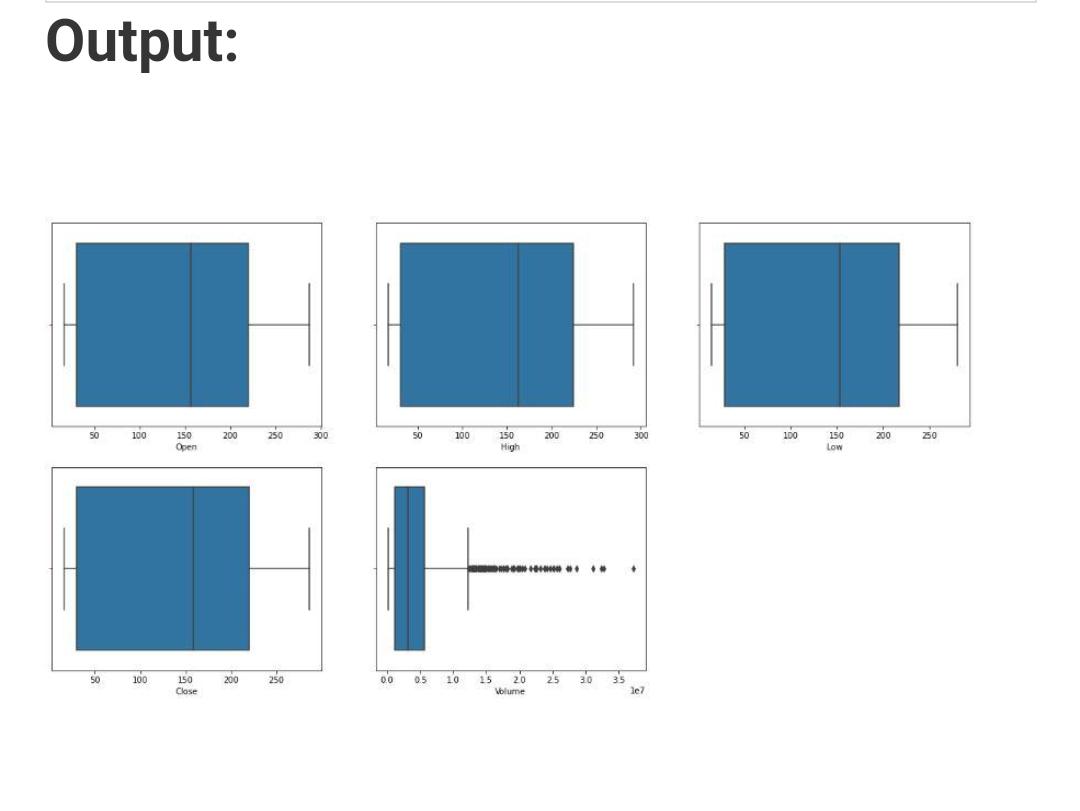
plt.subplots(figsize=(20,10))

for i, col in enumerate(features):

plt.subplot(2,3,i+1)

sb.boxplot(df[col])

plt.show()



data\_grouped = df.groupby('year').mean()

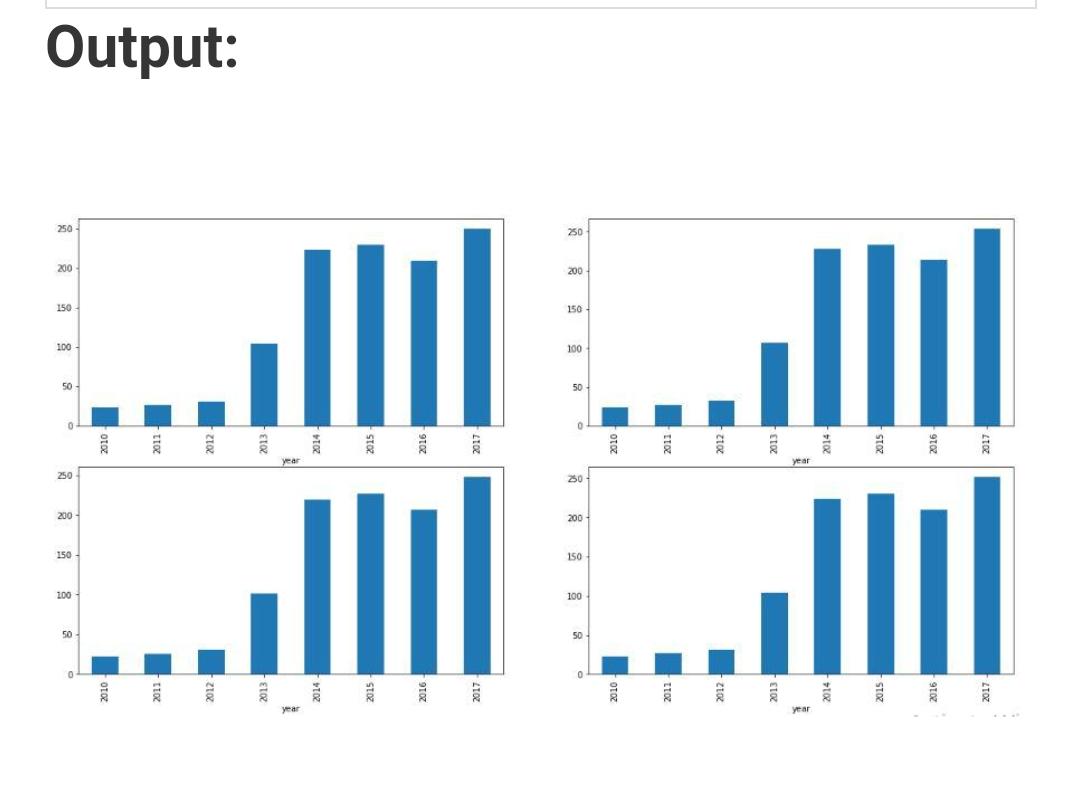
plt.subplots(figsize=(20,10))

for i, col in enumerate(['Open', 'High', 'Low', 'Close']):

plt.subplot(2,2,i+1)

data\_grouped[col].plot.bar()

plt.show()



models = [LogisticRegression(), SVC(

kernel='poly', probability=True), XGBClassifier()]

for i in range(3):

models[i].fit(X\_train, Y\_train)

print(f'{models[i]} : ')

print('Training Accuracy : ', metrics.roc\_auc\_score(

Y\_train, models[i].predict\_proba(X\_train)[:,1]))

print('Validation Accuracy : ', metrics.roc\_auc\_score(

Y\_valid, models[i].predict\_proba(X\_valid)[:,1]))

print()

