Avani P A

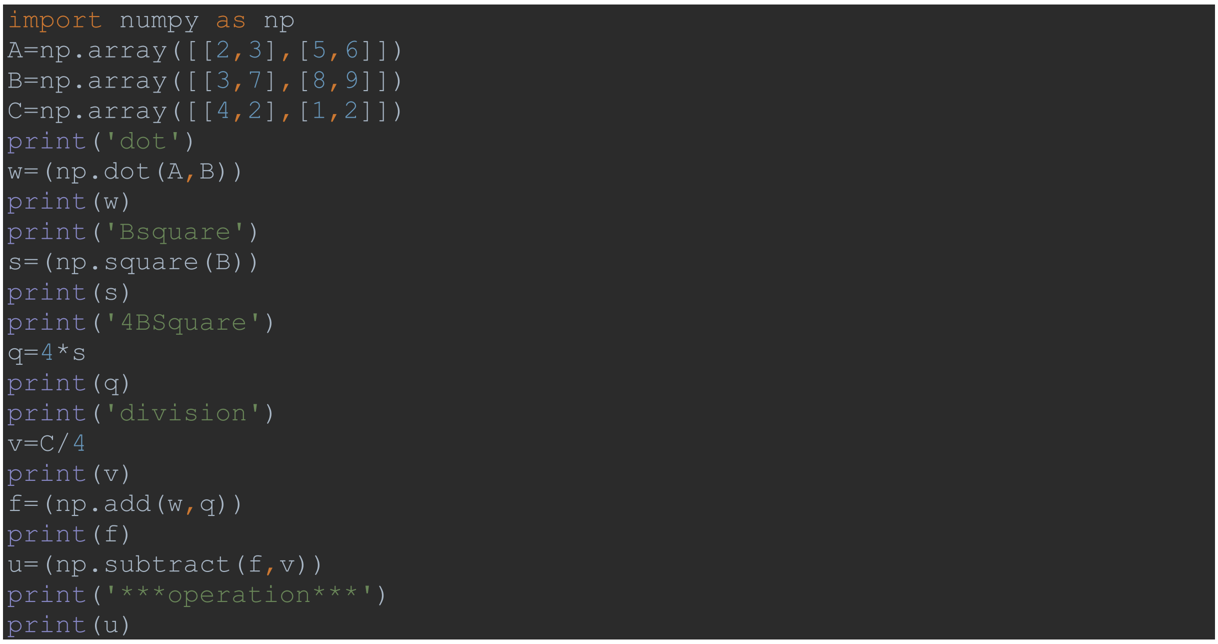
S3RMCA-A

ROLLNO:32

AJC20MCA-2032

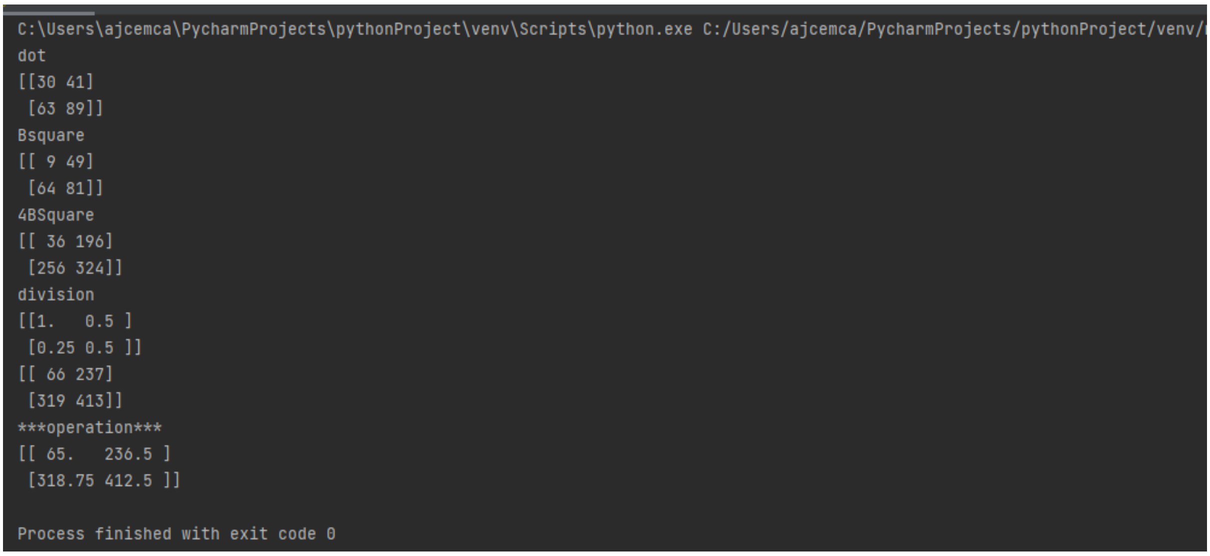
Program1

1.Given 3 matrics A,B,C .write a program to perform the following operation.



```
import numpy as np
A=np.array([[2,3],[5,6]])
B=np.array([[3,7],[8,9]])
C=np.array([[4,2],[1,2]])
print('dot')
w=(np.dot(A,B))
print(w)
print('Bsquare')
s=(np.square(B))
print(s)
print('4BSquare')
q=4*s
print(q)
print('division')
v=C/4
print(v)
f=(np.add(w,q))
print(f)
u=(np.subtract(f,v))
print('***operation***')
print(u)
```

output



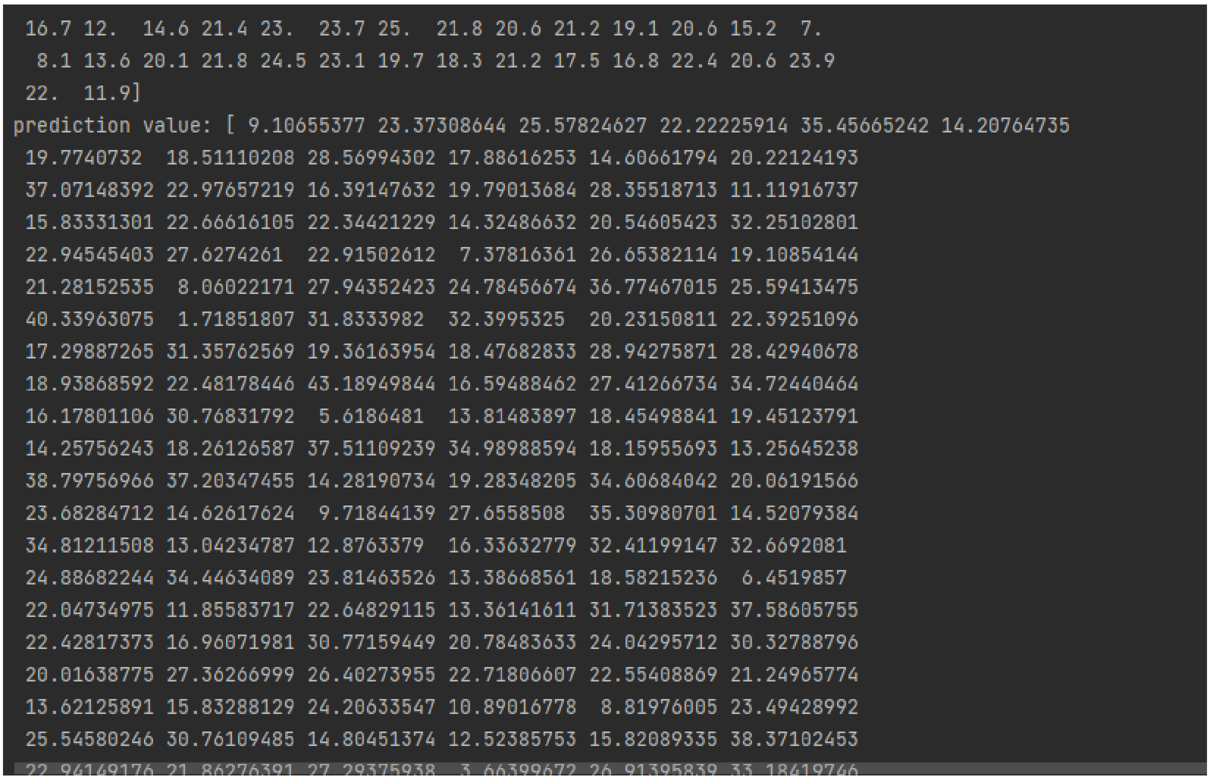
```
C:\Users\ajcemca\PycharmProjects\pythonProject\venv\Scripts\python.exe C:/Users/ajcemca/PycharmProjects/pythonProject/venv/
dot
[[30 41]
 [63 89]]
Bsquare
[[ 9 49]
 [64 81]]
4BSquare
[[ 36 196]
 [256 324]]
division
[[1.   0.5 ]
 [0.25 0.5 ]]
[[ 66 237]
 [319 413]]
***operation***
[[ 65.   236.5 ]
 [318.75 412.5 ]]

Process finished with exit code 0
```

Program 2:

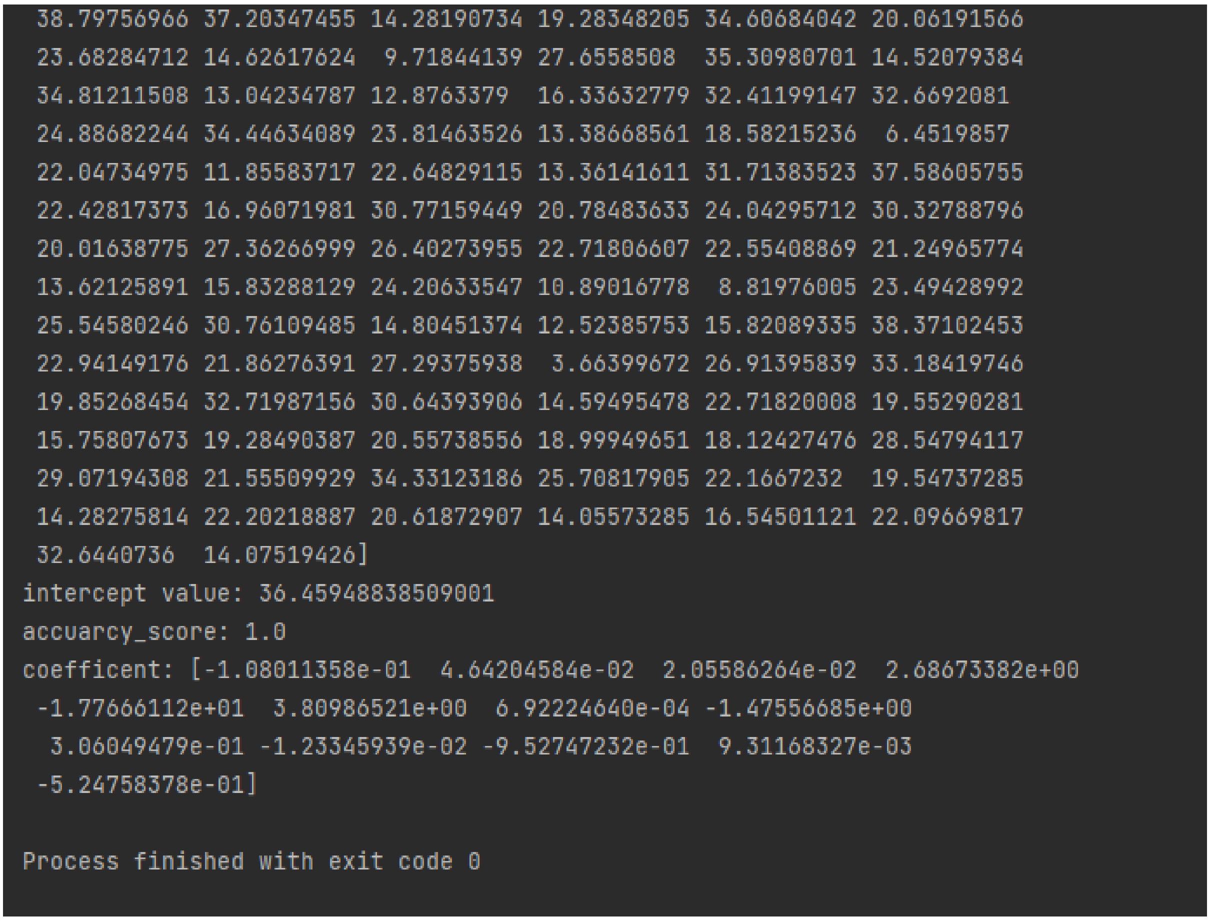
Program to implement multiple regression using boston data set available in public domain and evaluate its performance and display the coefficient values.

```
import numpy as np
from sklearn.linear_model import LinearRegression
from sklearn.model_selection import train_test_split
from sklearn.datasets import  load_boston
from sklearn.metrics import accuracy_score
import pandas as pd

boston=load_boston()
x=boston.data
y=boston.target
print(x)
print(y)

x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.3,random_sta
te=45)
regr=LinearRegression()
regr.fit(x,y)
y_predict=regr.predict(x_test)
r=regr.score(x_test,y_predict)

print('prediction value:',y_predict)
print('intercept value:',regr.intercept_)
print('accuarcy_score:',r)
print('coefficent:',regr.coef_)
```

Output



```
 16.7 12.  14.6 21.4 23.  23.7 25.  21.8 20.6 21.2 19.1 20.6 15.2  7.
  8.1 13.6 20.1 21.8 24.5 23.1 19.7 18.3 21.2 17.5 16.8 22.4 20.6 23.9
 22.  11.9]
prediction value: [ 9.10655377 23.37308644 25.57824627 22.22225914 35.45665242 14.20764735
 19.7740732  18.51110208 28.56994302 17.88616253 14.60661794 20.22124193
 37.07148392 22.97657219 16.39147632 19.79013684 28.35518713 11.11916737
 15.83331301 22.66616105 22.34421229 14.32486632 20.54605423 32.25102801
 22.94545403 27.6274261  22.91502612  7.37816361 26.65382114 19.10854144
 21.28152535  8.06022171 27.94352423 24.78456674 36.77467015 25.59413475
 40.33963075  1.71851807 31.8333982  32.3995325  20.23150811 22.39251096
 17.29887265 31.35762569 19.36163954 18.47682833 28.94275871 28.42940678
 18.93868592 22.48178446 43.18949844 16.59488462 27.41266734 34.72440464
 16.17801106 30.76831792  5.6186481  13.81483897 18.45498841 19.45123791
 14.25756243 18.26126587 37.51109239 34.98988594 18.15955693 13.25645238
 38.79756966 37.20347455 14.28190734 19.28348205 34.60684042 20.06191566
 23.68284712 14.62617624  9.71844139 27.6558508  35.30980701 14.52079384
 34.81211508 13.04234787 12.8763379  16.33632779 32.41199147 32.6692081
 24.88682244 34.44634089 23.81463526 13.38668561 18.58215236  6.4519857
 22.04734975 11.85583717 22.64829115 13.36141611 31.71383523 37.58605755
 22.42817373 16.96071981 30.77159449 20.78483633 24.04295712 30.32788796
 20.01638775 27.36266999 26.40273955 22.71806607 22.55408869 21.24965774
 13.62125891 15.83288129 24.20633547 10.89016778  8.81976005 23.49428992
 25.54580246 30.76109485 14.80451374 12.52385753 15.82089335 38.37102453
 22.94149176 21.86276391 27.29375938  3.66399672 26.91395839 33.18419746
```



```
 38.79756966 37.20347455 14.28190734 19.28348205 34.60684042 20.06191566
 23.68284712 14.62617624  9.71844139 27.6558508  35.30980701 14.52079384
 34.81211508 13.04234787 12.8763379  16.33632779 32.41199147 32.6692081
 24.88682244 34.44634089 23.81463526 13.38668561 18.58215236  6.4519857
 22.04734975 11.85583717 22.64829115 13.36141611 31.71383523 37.58605755
 22.42817373 16.96071981 30.77159449 20.78483633 24.04295712 30.32788796
 20.01638775 27.36266999 26.40273955 22.71806607 22.55408869 21.24965774
 13.62125891 15.83288129 24.20633547 10.89016778  8.81976005 23.49428992
 25.54580246 30.76109485 14.80451374 12.52385753 15.82089335 38.37102453
 22.94149176 21.86276391 27.29375938  3.66399672 26.91395839 33.18419746
```

```
 19.85268454 32.71987156 30.64393906 14.59495478 22.71820008 19.55290281
 15.75807673 19.28490387 20.55738556 18.99949651 18.12427476 28.54794117
 29.07194308 21.55509929 34.33123186 25.70817905 22.1667232  19.54737285
 14.28275814 22.20218887 20.61872907 14.05573285 16.54501121 22.09669817
 32.6440736  14.07519426]
intercept value: 36.45948838509001
accuarcy_score: 1.0
coefficent: [-1.08011358e-01  4.64204584e-02  2.05586264e-02  2.68673382e+00
 -1.77666112e+01  3.80986521e+00  6.92224640e-04 -1.47556685e+00
  3.06049479e-01 -1.23345939e-02 -9.52747232e-01  9.31168327e-03
 -5.24758378e-01]

Process finished with exit code 0
```