EDS Assignment 3

By:-

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Code:-

```
import numpy as np
data = np.loadtxt("/content/studentDetails.csv",
skiprows = 1, delimiter=',')

rollNo = np.loadtxt("/content/studentDetails.csv",
skiprows = 1, delimiter=',', usecols=0)
age = np.loadtxt("/content/studentDetails.csv",
skiprows = 1, delimiter=',', usecols=1)
sic = np.loadtxt("/content/studentDetails.csv",
skiprows = 1, delimiter=',', usecols=2)
eds = np.loadtxt("/content/studentDetails.csv",
skiprows = 1, delimiter=',', usecols=3)
am = data[0::, 4]
dt = data[0::, 5]
son = data[0::, 6]
cgpa = data[0::, 7]

# find the mean age of students
mean_age = np.mean(age)
print("\nMean age of students = ", mean_age)

# print the roll number of topper
topper = data[np.argmax(cgpa), 0]
print("\nRoll no. of topper of the class = ", topper)

# print student roll number whose age = 18 and eds
marks > 80
age_18 = data[::, 1] == 18
eds_marks = data[::, 3] > 80
a = data[age_18 & eds_marks]
```

```
print("\nStdent details whose age >= 18 and eds marks
> 80:")
print(a)

# print the median marks in AM
median_am = np.median(am)
print("\nMedian marks in AM = ", median_am)

# print the total marks obtained by all students
total = sic + eds + am + dt + son
print("\nTotal marks of all students:")
for i in range(len(rollNo)):
  print(rollNo[i], " -> ", total[i])

#print the avg marks of AM
print("\nAverage marks of AM=",sum(am)/10)

#print cgpa of students whose age is less than 18
age_18 = data[:, 1] <= 18
print("\nCgpa of students whose age is more tha 18: ",
data[age_18, 7])

#print roll no of student whose son marks are highest
max_son=np.argmax(son)
print("\nRoll No of student having highest marks in
son = ", rollNo[max_son])

#print student roll number whose eds marks is >= 90
eds_90 = np.where(eds >= 90)
print("\nStudent roll nos whose eds marks >= 90")
for i in eds_90:
  print(rollNo[i])

# print all the cgpa in ascending order
sorted_cgpa = np.sort(cgpa)
print("\nCgpa in ascending order = ", sorted_cgpa)
```

Output:-

```
Mean age of students =  18.5

Roll no. of topper of the class =  203.0

Stdent details whose age >= 18 and eds marks > 80:
[[201.   18.   67.   87.   88.   67.   56.    7.2]
 [205.   18.   98.   92.   91.   80.   78.    8.9]
 [207.   18.   89.   88.   87.   56.   89.    8.5]]

Median marks in AM =  90.0

Total marks of all students:
201.0  ->  365.0
202.0  ->  454.0
203.0  ->  470.0
204.0  ->  367.0
205.0  ->  439.0
206.0  ->  386.0
207.0  ->  409.0
208.0  ->  417.0
209.0  ->  461.0
210.0  ->  402.0

Average marks of AM= 89.2

Cgpa of students whose age is more tha 18:  [7.2 7.2
8.9 8.5 8.9]
Roll No of student having highest marks in son =
203.0

Student roll nos whose eds marks >= 90
[202. 203. 205. 208. 209.]

Cgpa in ascending order =  [7.2 7.2 7.9 7.9 8.5 8.9
8.9 8.9 9.1 9.5]
```