```
import numpy as np
a=np.loadtxt("/content/testmarks1.csv",delimiter=",",dtype=float,skiprows=1)
print(a)

roll_no=a[:,0]
eds_marks=a[:,1]
son_marks=a[:,2]
dt_marks=a[:,3]
et_marks=a[:,4]
print(roll_no)
print(eds_marks)
print(son_marks)
print(dt_marks)
print(et_marks)

#max marks in EDS
maximum=max(eds_marks)
print("maximunm marsks scored in Eds is : ",maximum)

#minimum marks in EDS
minimum=min(eds_marks)
print("minimum marks scored in eds is :",minimum)

#calculating mean of DT marks
mean=np.mean(dt_marks)
print("The mean of marks scored in DT are :",mean)

#addition eds marks and son marks
a=eds_marks+son_marks
print("Addition of son marks and dt marks is :",a)

#substraction of dt marks and et marks
b=dt_marks-et_marks
print("Substraction of dt marks and et marks is :",b)

#division of matrix
c=dt_marks/et_marks
print("Division of dt marks and et marks is :",c)

#multiplication of matrix
d=son_marks*eds_marks
print("Multiplication of son marks and eds marks is :",d)

#summation of matrix
e=sum(et_marks)
print("Summation of all et marks is :",e)

#transpose of matrix
f=son_marks.T
print("Transpose of son marks array is :",f)

#Vertical stacking of roll no martrix
a=np.vstack(roll_no)
print("the example of vertical stack is :\n",a)

#Horizontal stack of roll no matrix
b=np.hstack(roll_no)
print("the example of horizontal stacking is :\n",b)

#Copying and viewing arrays and copying marks from son marks and viewing it in et marks
print(son_marks)
print(dt_marks)
son_marks=dt_marks

#custom sequence generation
print("custom sequence generation : ")
a=np.arange(0,10)
print(a)
b=np.arange(11,20)
print(b)

#stacking and sorting
print("Broadcasting :\n",son_marks+5)
print("Sorting SON marks:\n",np.sort(son_marks))
print("Counting elements in roll no array :\n",np.count_nonzero(roll_no))

#view and copy
v=et_marks.view()
print(v)
print("Array created using view method is just a copy of orignal array")
c=et_marks.copy()
```

```
print(c)

#bitwise operator
a=10
b=20
print("Binary is :\n",bin(a))
print("Binary is :\n",bin(b))
print("Bitwise a and b:",np.bitwise_and(a,b))
print("Bitwise a or b:",np.bitwise_or(a,b))
print("Bitwise a xor b:",np.bitwise_xor(a,b))
```

```
[[801.    43.05  27.79  28.7   27.79]
 [802.    43.47  28.52  28.98  27.89]
 [803.    42.24  28.16  28.16  25.63]
 [804.    39.24  26.16  26.16  26.16]
 [805.    40.9   26.03  27.27  25.65]
 [806.    39.47  26.31  26.31  25.21]
 [807.    41.68  25.63  27.79  25.46]
 [808.    42.19  27.61  28.13  26.21]
 [809.    44.75  28.35  29.83  28.21]
 [810.    46.95  28.88  31.3   28.53]]
[801. 802. 803. 804. 805. 806. 807. 808. 809. 810.]
[43.05 43.47 42.24 39.24 40.9  39.47 41.68 42.19 44.75 46.95]
[27.79 28.52 28.16 26.16 26.03 26.31 25.63 27.61 28.35 28.88]
[28.7  28.98 28.16 26.16 27.27 26.31 27.79 28.13 29.83 31.3 ]
[27.79 27.89 25.63 26.16 25.65 25.21 25.46 26.21 28.21 28.53]
maximunm marsks scored in Eds is :  46.95
minimum marks scored in eds is : 39.24
The mean of marks scored in DT are : 28.262999999999998
Addition of son marks and dt marks is : [70.84 71.99 70.4  65.4  66.93 65.78 67.31 69.8  73.1  75.83]
Substraction of dt marks and et marks is : [0.91 1.09 2.53 0.   1.62 1.1  2.33 1.92 1.62 2.77]
Division of dt marks and et marks is : [1.03274559 1.03908211 1.09871245 1.         1.06315789 1.04363348
 1.0915161  1.07325448 1.05742644 1.09709078]
Multiplication of son marks and eds marks is : [1196.3595 1239.7644 1189.4784 1026.5184 1064.627  1038.4557 1068.2584
 1164.8659 1268.6625 1355.916 ]
Summation of all et marks is : 266.74
Transpose of son marks array is : [27.79 28.52 28.16 26.16 26.03 26.31 25.63 27.61 28.35 28.88]
the example of vertical stack is :
 [[801.]
 [802.]
 [803.]
 [804.]
 [805.]
 [806.]
 [807.]
 [808.]
 [809.]
 [810.]]
the example of horizontal stacking is :
 [801. 802. 803. 804. 805. 806. 807. 808. 809. 810.]
[27.79 28.52 28.16 26.16 26.03 26.31 25.63 27.61 28.35 28.88]
[28.7  28.98 28.16 26.16 27.27 26.31 27.79 28.13 29.83 31.3 ]
custom sequence generation :
[0 1 2 3 4 5 6 7 8 9]
[11 12 13 14 15 16 17 18 19]
Broadcasting :
 [33.7  33.98 33.16 31.16 32.27 31.31 32.79 33.13 34.83 36.3 ]
Sorting SON marks:
 [26.16 26.31 27.27 27.79 28.13 28.16 28.7  28.98 29.83 31.3 ]
Counting elements in roll no array :
 10
[27.79 27.89 25.63 26.16 25.65 25.21 25.46 26.21 28.21 28.53]
Array created using view method is just a copy of orignal array
[27.79 27.89 25.63 26.16 25.65 25.21 25.46 26.21 28.21 28.53]
Binary is :
 0b1010
Binary is :
 0b10100
Bitwise a and b: 0
```

✓ 0s completed at 9:35 PM