

#Assignment 3

```
import numpy as np
import csv
f=open("/pacient.csv","r")
f2=open("/doctor.csv","r")
f3=open("/nurse.csv","r")
data1 = list(csv.reader(f))
data2 = list(csv.reader(f2))
data3 = list(csv.reader(f3))
data4 = np.loadtxt("/pacient.csv", delimiter=',', usecols=(0,3))
data5 = np.loadtxt("/doctor.csv", delimiter=',', usecols=(2,3))
data6=np.loadtxt("/nurse.csv", delimiter=',', usecols=(1,2,4))
data7=np.loadtxt("/nurse.csv", delimiter=',',skiprows=8,
usecols=(1,2,4))
data8 = np.loadtxt("/pacient.csv", delimiter=',',skiprows=8,
usecols=(0,3))
data9 = np.loadtxt("/doctor.csv", delimiter=',',skiprows=8,
usecols=(2,3))
data10= np.loadtxt("/doctor.csv", delimiter=',', usecols=(3))
```

```
#MATRIX OPERATION
mx1=np.array(data4)
mx2=np.array(data5)
mx3=np.array(data6)
#Matrix Sumetion of elements
print(np.sum(mx1))
print(np.sum(mx2))
#Matrix transpose
print(mx1.T)
print(mx2.T)
#adittion of two matrix
c=mx1+mx2
print(c)
#subtraction of two matrix
d=mx1-mx2
print(d)
```

#ARITHMATIC OPERATION

```
a=np.array(data7)
```

```
b=np.array(data8)
c=np.array(data9)
#Adding patient and doctor fees
d=b+c
print(d)
#Subtracting patient and doctor fees
e=b-c
print(e)
#Multiplying patient and doctor fees
f=b*c
print(f)
#division patient and doctor fees
g=b/c
print(g)
```

```
#stastical operation
#finding the mean of doctor salary
a=np.array(data10)
mean=np.mean(a)
print(mean)
```

```
#stacking
#stacking of patient and doctor
a1=np.array(data4)
a2=np.array(data5)
a3=np.hstack((a1,a2))
print(a3)
a4=np.array(data8)
a5=np.array(data9)
a6=np.vstack(a5)
print(a6)
```

```
#bitwise operator
#finding the not for nusrse
a=np.array(data10)
n=a.astype('i')
c=np.bitwise_not(n)
print(c)
```

```
#copy and view array
```

```

#Copying patient information
a1=np.array(data10)
a2=a1.copy()
print(a1,a2)
#view doctor information
a3=np.array(data5)
a4=a3.view()
print(a4)

```

```

#data searching
#search of doctors patient grater than 5
a1=np.array(data10)
print(a1[a1>5])
#data sorting of doctor
a1=np.array(data10)
print(np.sort(a1))
#data count
#count number of doctors who has patient equal to 9
z=np.count_nonzero(a1==9)
print(z)
#broadcasting
# doctor and patient
a=np.array(data8)
b=np.array(data9)
c=a+b
print(c)

```

Output:

```

321055.0
955041.0
[[1.0e+00 2.0e+00 3.0e+00 4.0e+00 5.0e+00 6.0e+00 7.0e+00 8.0e+00 9.0e+00
 1.0e+01]
 [5.0e+04 2.0e+03 3.2e+04 1.0e+05 1.5e+04 2.0e+04 3.0e+04 4.0e+04 2.0e+03
 3.0e+04]]
[[[3.0e+05 1.5e+04 3.4e+04 2.4e+04 6.9e+04 2.7e+04 9.8e+04 2.4e+04 3.4e+05
 2.4e+04]
 [3.0e+00 6.0e+00 9.0e+00 1.0e+00 4.0e+00 3.0e+00 6.0e+00 0.0e+00 2.0e+00
 7.0e+00]]
 [[300001. 50003.]
 [ 15002.  2006.]
 [ 34003. 32009.]
 [ 24004. 100001.]
 [ 69005. 15004.]
 [ 27006. 20003.]
 [ 98007. 30006.]
 [ 24008. 40000.]
 [340009.  2002.]
 [ 24010. 30007.]]

```

[[-299999. 49997.]
[-14998. 1994.]
[-33997. 31991.]
[-23996. 99999.]
[-68995. 14996.]
[-26994. 19997.]
[-97993. 29994.]
[-23992. 40000.]
[-339991. 1998.]
[-23990. 29993.]]

[[340009. 2002.]
[24010. 30007.]]
[[-339991. 1998.]
[-23990. 29993.]]
[[3060000. 4000.]
[240000. 210000.]]
[[2.64705882e-05 1.00000000e+03]
[4.16666667e-04 4.28571429e+03]]

4.1

[[1.0e+00 5.0e+04 3.0e+05 3.0e+00]
[2.0e+00 2.0e+03 1.5e+04 6.0e+00]
[3.0e+00 3.2e+04 3.4e+04 9.0e+00]
[4.0e+00 1.0e+05 2.4e+04 1.0e+00]
[5.0e+00 1.5e+04 6.9e+04 4.0e+00]
[6.0e+00 2.0e+04 2.7e+04 3.0e+00]
[7.0e+00 3.0e+04 9.8e+04 6.0e+00]
[8.0e+00 4.0e+04 2.4e+04 0.0e+00]
[9.0e+00 2.0e+03 3.4e+05 2.0e+00]
[1.0e+01 3.0e+04 2.4e+04 7.0e+00]]
[[3.4e+05 2.0e+00]
[2.4e+04 7.0e+00]]

[-4 -7 -10 -2 -5 -4 -7 -1 -3 -8]

[3. 6. 9. 1. 4. 3. 6. 0. 2. 7.] [3. 6. 9. 1. 4. 3. 6. 0. 2. 7.]
[[3.0e+05 3.0e+00]
[1.5e+04 6.0e+00]
[3.4e+04 9.0e+00]
[2.4e+04 1.0e+00]
[6.9e+04 4.0e+00]
[2.7e+04 3.0e+00]
[9.8e+04 6.0e+00]
[2.4e+04 0.0e+00]
[3.4e+05 2.0e+00]
[2.4e+04 7.0e+00]]

[6. 9. 6. 7.]
[0. 1. 2. 3. 3. 4. 6. 6. 7. 9.]

[[340009. 2002.]

[24010. 30007.]]