1. create the following two dimensional arrays

[[1., 0., 0., 0., 0.],

[0., 1., 0., 0., 0.],

[0., 0., 1., 0., 0.],

[0., 0., 0., 1., 0.],

[0., 0., 0., 0., 1.]]

2. [[1, 0, 0, 0],

[0, 2, 0, 0],

[0, 0, 3, 0],

[0, 0, 0, 4]]

3. Create a checkerboard pattern in an array using row and col slicing

Ans : numpy library used. Arrays & slicing used

4. Compute the no of bytes occupied in the memory for an array of numbers from 1 to 10

Ans : arrays & nbytes command used

5. img=[[200,210,209],[213,0,214],[214,215,217]]

Given a snap shot of the image, estimate the centre pixel with mean,median values.

Ans : statistical measures mean & median used

6. create a Pandas series to store the marks of students and filter the marks >50,>70,>90

Ans : numpy used. Arrange method used to create dataframe

7.Create data frame given below to store student info from the numpy arrays defined

Ans : pandas library used

8. Given the two data frames,

dfr1=pd.DataFrame({'Id':[1,2,3,5,9],

'Col1':[1,2,3,4,5],

'col2':[6,7,8,9,10],

'col4':['apple','orange','banana','strawberry','rasberry']})

dfr2=pd.DataFrame({'Id':[1,1,3,5],

'ColA':[8,9,10,11],

'colB':[12,13,15,17],

'col4':['apple','orange','banana','kiwi']})

Perform left, right and inner join on the dataframes

Ans : pandas library & merge command used

9. Apply sigmoid function to the array [2,5,6]

1.define sigmoid function

2.create the np array

3.Apply the function to the array

Ans : sigmoid function used