INDIAN SCHOOL NIZWA - WORKSHEET

INFORMATICS PRACTICES

Chapter 1 : Working with NumPy

Name: _____ Date:_____ Class: XII Sec: ___

1. Create an ndarray with values ranging from 25 to 50 each spaced with a difference of 5.
2. Create a 5 x 5 ndarray having values ranging from 0 to 25(both inclusive)
3. Write code to extract elements in reversed order from array Ar. The extracted elements should be spaced with 3 elements in between in original array.i.e., every 4th element
   Ar=array([0, 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196], dtype=int32)
   Show the resultant slice
4. An ndarray W contains the following data
   [[0 2 4 6 8]
   [10 12 14 16 18]
   [20 22 24 26 28]
   [30 32 34 36 38]]
   What will be returned by the statements ?
   a) print(y[0:3,0:3])
   b) print(y[2:4,0:2])
   c) print(y[3:0,3:0])
   d) print(y[::-1,::-1])
   e) print(y[0:2,0:3])
   f) print(y[1:3,1:1])
   g) print(y[3:0:-1,3:0:-1])
   h) print(y[:3,::2])
5. Consider an array as shown below :
   Array([[0 1 2 3 4 5 6 7 8]
   [9 10 11 12 13 14 15 16 17]
   [18 19 20 21 22 23 24 25 26]])
   What will be the output produced by the following array split
   a) np.vsplit(p,3)
   b) np.split(p,(1,2),axis=1)
   c) np.split(p,(1,2),axis=0)
6. Predict the output of the following code fragments
   a)
```
ip=np.array([[21,22,23],
             [24,25,26]])
ip2=np.concatenate([ip,ip],axis=1)
print(ip2)
```
   b)
```
ip1=np.array([21,22,23])
ip2=np.array([[24,25,26],
              [27,28,29]])
ip3=np.vstack([ip1,ip2])
print(ip3)
```
   c)
```
ip1=np.array([[18,19,20],
              [21,22,23]])
ip2=np.array([[24,25,26],
              [27,28,29]])
ip3=np.hstack([ip1,ip2])
print(ip3)
```