Q1 Write satement to import numpy?

```
In [1]: import numpy as np
```

Q2 Create an array using numpy?

```
In [2]: a=np.array([10,20,30,40,50,60])
        a
```

```
Out[2]: array([10, 20, 30, 40, 50, 60])
```

Q3 Create an arrray of 10 random integers?

```
In [4]: a=np.random.randint(1,50,10)
        a
```

```
Out[4]: array([27,  8, 32, 12, 20, 18, 44, 37,  1,  5])
```

Q4 Create an array of elements from 10-20?

```
In [7]: a=np.random.randint(10,20,5)
        a
```

```
Out[7]: array([15, 17, 14, 17, 17])
```

Q5 create an array which contains value 5, 10 times?

```
In [9]: a=np.repeat(5,10)
        a
```

```
Out[9]: array([5, 5, 5, 5, 5, 5, 5, 5, 5, 5])
```

Q6 Create a one dimensional array and convert it into 3*3 matrix?

```
In [15]: np.random.seed(9)
         a=np.random.randint(1,100,9)
         a.reshape(3,3)
```

```
Out[15]: array([[93, 55, 57],
                [23, 66, 23],
                [53, 60, 41]])
```

Q7 Create a 2D array and convert it into 3*3 matrix and number should be between 0 and 1?

```
In [28]: a=np.diag(np.random.rand(3))
         a
```

```
Out[28]: array([[0.10305405, 0.        , 0.        ],
                [0.        , 0.49060155, 0.        ],
                [0.        , 0.        , 0.63209168]])
```

Q8 Concatenate 2D array horizontally and vertically?

```
In [31]: a=np.array([10,20,30])
         b=np.array([96,98,63])
         ans=np.vstack((a,b))
         ans
```

Out[31]: array([[10, 20, 30],
               [96, 98, 63]])

```
In [32]: a=np.array([10,20,30])
         b=np.array([96,98,63])
         ans=np.hstack((a,b))
         ans
```

Out[32]: array([10, 20, 30, 96, 98, 63])

In [ ]: