Assignment : - 1

```
import numpy as np


b1 = np.array([[2,3],[4,5]])
b2 = np.array([[5,6],[7,8]])
print(b1)
print(b2)
```

```
[[2 3]
 [4 5]]
[[5 6]
 [7 8]]
```

```
a1 = np.arange(10, 100, 10)
print(a1)
```

```
[10 20 30 40 50 60 70 80 90]
```

```
import string

# Create a NumPy array of capital letters
capital_letters = np.array(list(string.ascii_uppercas

print(capital_letters)
```

```
['A' 'B' 'C' 'D' 'E' 'F' 'G' 'H' 'I' 'J' 'K' 'L' 'M' 'N' 'O' 'P' 'Q' 'R'  'S' 'T' 'U' 'V' 'W' 'X' 'Y' 'Z']
```

```
zeroArray = np.zeros(10)
print(zeroArray)
```

```
[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
```

```
onesArray = np.ones(10)
print(onesArray)
```

```
[1. 1. 1. 1. 1. 1. 1. 1. 1. 1.]
```

```
print(capital_letters.dtype)
```

```
<U1
```

```
#Random Function integer serie
print("Random Integer:\n", format(np.random.randint(1
```

```
Random Integer:
 [3 1 2 2 3 1 3 4 1 2]
a2 = np.arange(10)
```

```
print(a2)
```

```
[0 1 2 3 4 5 6 7 8 9]
```

```
oddarr = a2[a2%2 == 1]
print(oddarr)
```

```
[1 3 5 7 9]
```

```
a2[a2 % 2 == 1] = -1
```

```
print(a2)
```

```
[ 0 -1 2 -1 4 -1 6 -1 8 -1]
```

Assignment : - 2

```
import numpy as np
even_number = np.arange(2,21,2)
print(even_number)
```

```
[ 2 4 6 8 10 12 14 16 18 20]
```

In [5]:

```
space_number = np.linspace(0,1,5)
print(space_number)
```

```
[0. 0.25 0.5 0.75 1. ]
```

In [7]:

```
full_array = np.full((3,3),7)
print(full_array)
```

```
[[7 7 7]
 [7 7 7]
 [7 7 7]]
```

In [8]:

```
identity_matrix = np.eye(4)
print(identity_matrix)
```

```
[[1. 0. 0. 0.]
 [0. 1. 0. 0.]
 [0. 0. 1. 0.]
 [0. 0. 0. 1.]]
```

In [9]:

```
random = np.random.rand(10)
print(random)
```

```
[0.71308073 0.1798348 0.42918645 0.79624438 0.40393222
 0.32562067 0.36627542 0.55446999 0.26813386 0.74181372]
```

In [31]:

```
ori_array = np.arange(1,13)
reArray = ori_array.reshape(3,4)
print(reArray)
```

```
[[ 1 2 3 4]
 [ 5 6 7 8]
 [ 9 10 11 12]]
```

In [35]:

```
print(reArray.shape)
print(reArray.ndim)
```

```
(3, 4)
2
```

In [32]:

```
original_array = np.arange(1,26)
reshape_Array =
original_array.reshape(5,5)
print(reshape_Array)
```

```
[[ 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]]
```

In [24]:

```
first_row = reshape_Array[0,:]
print(first_row)
```

```
[1 2 3 4 5]
```

In [28]:

```
last_column =
reshape_Array[:,-1]
print(last_column)
```

```
[ 5 10 15 20 25]
```

In [29]:

```
reshape_Array[reshape_Array
> 15] = 0 print(reshape_Array)

[[ 1 2 3 4 5]
  [ 6 7 8 9 10]
  [11 12 13 14 15]
  [ 0 0 0 0 0]
  [ 0 0 0 0 0]]
```