Internship Task 4

Write a Python program using NumPy to perform the following tasks on a given array:

1. Create a NumPy array with the following values: [1, 2, 3, 4, 5].
2. Print the shape of the array using the .shape attribute.
3. Reshape the array into a 2D array with 2 rows and 3 columns.
4. Print the shape of the new array.
5. Create a second NumPy array with the following values: [6, 7, 8, 9, 10].
6. Concatenate the two arrays together horizontally.
7. Print the resulting array.
8. Compute the resulting array's mean, median, and standard deviation.

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

In [2]:
```
a = np.array([1,2,3,4,5]) ##Create a NumPy array with the following values: [1, 2, 3, 4, 5].
```

In [3]:
```
np.shape(a) ##Print the shape of the array using the .shape attribute
```

Out[3]:
```
(5,)
```

We cannot reshape array with 5 elements into (2,3) format son we will add zero as 6th element in our previous array

In [4]:
```
a1 = np.array([0,1,2,3,4,5])
```

In [5]:
```
a2 = np.reshape(a1,(2,3)) ##Reshape the array into a 2D array with 2 rows and 3 columns
```

In [6]:
```
print(a2)
```

```
[[0 1 2]
 [3 4 5]]
```

In [7]:
```
print(a2.shape) ##Print the shape of the new array
```

```
(2, 3)
```

In [8]:
```
b1 = np.array([6,7,8,9,10]) ##Create a second NumPy array with the following values: [6, 7, 8, 9, 10]
```

In [9]:
```
c1 = np.concatenate((a1,b1),axis = 0) ##Concatenate the two arrays together horizontally
```

In [10]:
```
print(c1) ##Print the resulting array
```

```
[ 0  1  2  3  4  5  6  7  8  9 10]
```

In [11]:
```
 np.mean(c1) ## Mean
```

Out[11]:
```
5.0
```

In [12]:
```
np.median(c1) ##Median
```

Out[12]:
```
5.0
```

In [13]:
```
np.std(c1) ##Standard Deviation
```

Out[13]:
```
3.1622776601683795
```

In [ ]:
```

```