Question 1

In [4]:
```
import numpy as np
array = np.arange(2,51,3)
print(array)
```

```
[ 2  5  8 11 14 17 20 23 26 29 32 35 38 41 44 47 50]
```

Question 2

In [10]:
```
l1 = list()
print("Enter 5 elements for list 1: ")
for i in range(5):
    n = int(input())
    l1.append(n)

l2 = list()
print("Enter 5 elements for list 2: ")
for i in range(5):
    n = int(input())
    l2.append(n)

array1 = np.array(l1)
array2 = np.array(l2)

array3 = np.concatenate((array1, array2))
print(np.sort(array1))
print(np.sort(array2))
print(np.sort(array3))
```

```
Enter 5 elements for list 1:
1
```

```
2
3
4
5
Enter 5 elements for list 2:
6
7
8
9
0
[1 2 3 4 5]
[0 6 7 8 9]
[0 1 2 3 4 5 6 7 8 9]
```

Question 3

In [16]:
```
ndarray = np.arange(0,12).reshape(3,4)
print(ndarray)
print()
print("Dimensions of ndarray:", ndarray.ndim)
print("Size of ndarray:", ndarray.size)
```

```
[[ 0  1  2  3]
 [ 4  5  6  7]
 [ 8  9 10 11]]

Dimensions of ndarray: 2
Size of ndarray: 12
```

Question 4

In [7]:
```
k = np.array([1,2,3,4,5,6])
k = k[:,np.newaxis]
print(np.expand_dims(k, axis=0))
```

```
[[[1]
  [2]
  [3]
  [4]
  [5]
  [6]]]
```

Question 5

In [11]:
```
array1 = np.array([[1,2,3],[4,5,6],[7,8,9]])
array2 = np.array([[11,22,33],[44,55,66],[77,88,99]])
print("array1 vstack:")
print(np.vstack(array1))
print()
print("array2 hstack:")
print(np.hstack(array2))
```

```
array1 vstack:
[[1 2 3]
 [4 5 6]
 [7 8 9]]

array2 hstack:
[11 22 33 44 55 66 77 88 99]
```

Question 6

In [12]:
```
import numpy as np
a = np.array( [10,10,20,10,20,20,20,30, 30,50,40,40] )
print("Original array:")
print(a)
unique_elements, counts_elements = np.unique(a, return_counts=True)
print("Count of unique values of the said array:")
print(np.asarray((unique_elements, counts_elements)))
```

```
Original array:
[10 10 20 10 20 20 20 30 30 50 40 40]
Count of unique values of the said array:
[[10 20 30 40 50]
 [ 3  4  2  2  1]]
```

In [ ]: