

Programming Basic Assignment 7

1. Write a Python Program to find sum of array?

In [2]:

```
1 n=0
2 arr = [1,2,3,4,5]
3 ans = sum(arr,n)
4 print ('Sum of the array is ',ans)
```

Sum of the array is 15

2. Write a Python Program to find largest element in an array?

In [4]:

```
1 arr = [25, 11, 7, 99, 56];
2
3 #Initialize max with first element of array.
4 max = arr[0];
5
6 #Loop through the array
7 for i in range(0, len(arr)):
8     #Compare elements of array with max
9     if(arr[i] > max):
10         max = arr[i];
11
12 print("Largest element present in given array: " + str(max));
```

Largest element present in given array: 99

3. Write a Python Program for array rotation?

In [5]:

```

1  # Function to rotate arrays in Python
2  def rotateArrayLeft(arr, R, n):
3      for i in range(R):
4          firstVal = arr[0]
5          for i in range(n-1):
6              arr[i] = arr[i+1]
7              arr[n-1] = firstVal
8
9  # Taking array input from user
10 arr = [1, 2, 3, 4, 5, 6, 7]
11 n = int(input("Enter number of elements of the array: "))
12 arr = []
13 print("Enter elements of the array :")
14 for i in range(n):
15     numbers = int(input())
16     arr.append(numbers)
17 R = int(input("Enter rotation count: "))
18
19 # Printing array
20 print("Initial Array :", end = " ")
21 for i in range(n):
22     print ("%d"% arr[i],end=" ")
23
24 # Calling function for Left Rotating array
25 rotateArrayLeft(arr, R, n)
26
27 # Printing new array
28 print("\nArray after rotation: ", end = " ")
29 for i in range(n):
30     print ("%d"% arr[i],end=" ")

```

Enter number of elements of the array: 12

Enter elements of the array :

12

15

25

35

24

85

36

58

78

547

54

89

Enter rotation count: 2

Initial Array : 12 15 25 35 24 85 36 58 78 547 54 89

Array after rotation: 25 35 24 85 36 58 78 547 54 89 12 15

4. Write a Python Program to Split the array and add the first part to the end?

In [6]:

```
1 def splitArr(arr, n, k):
2     for i in range(0, k):
3         x = arr[0]
4         for j in range(0, n-1):
5             arr[j] = arr[j + 1]
6
7         arr[n-1] = x
8
9
10 # main
11 arr = [12, 10, 5, 6, 52, 36]
12 n = len(arr)
13 position = 2
14
15 splitArr(arr, n, position)
16
17 for i in range(0, n):
18     print(arr[i], end = ' ')
```

5 6 52 36 12 10

5. Write a Python Program to check if given array is Monotonic?

In [7]:

```
1 def isMonotonic(A):
2     x, y = [], []
3     x.extend(A)
4     y.extend(A)
5     x.sort()
6     y.sort(reverse=True)
7     if(x == A or y == A):
8         return True
9     return False
10
11
12 # Driver program
13 A = [6, 5, 4, 4]
14
15 # Print required result
16 print(isMonotonic(A))
```

True