Programming Basic Assignment 7

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

```
array1 = [1, 2, 3, 4, 5, 6]
sumof = sum(array1)
print(sumof)
```

```
21
```

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

```
array1 = [1, 2, 3, 4, 5, 6, -2]
maxofelement = array1[0]
for i in range(1, len(array1)):
  if maxofelement < array1[i]:
    maxofelement = array1[i]
print(maxofelement)
```

```
6
```

3. Write a Python Program for array rotation?

```
def rotateArray(arr : list, k: int):
  while k != 0:
    tempElement = arr[-1]
    arr.pop(-1)
    arr.insert(0, tempElement)
    k -= 1

array1 = [10,11,12,13,14]
print(array1)
rotateArray(array1, 2)
print(array1)
```

```
[10, 11, 12, 13, 14]
[13, 14, 10, 11, 12]
```

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

```
def split_and_add(arr, k):
    # Split the array into two parts
    first_part = arr[:k]
    second_part = arr[k:]

    # Add the first part to the end of the second part
    second_part.extend(first_part)

    return second_part

# Test the function
print(split_and_add([1, 2, 3, 4, 5, 6], 3)) # [4, 5, 6, 1, 2, 3]
print(split_and_add([1, 2, 3, 4, 5, 6], 2)) # [3, 4, 5, 6, 1, 2]
print(split_and_add([1, 2, 3, 4, 5, 6], 4)) # [5, 6, 1, 2, 3, 4]
```

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

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

```
def is_monotonic(arr):
    if len(arr) <= 1:
        return True
    increasing = True
```

```
    decreasing = True
    for i in range(1, len(arr)):
        if arr[i] > arr[i-1]:
            decreasing = False
        elif arr[i] < arr[i-1]:
            increasing = False
        if not increasing and not decreasing:
            return False
    return True

# Test the function
print(is_monotonic([1, 2, 3, 4, 5])) # True
print(is_monotonic([5, 4, 3, 2, 1])) # True
print(is_monotonic([1, 2, 3, 2, 1])) # False
```

```
True
True
False
```