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

arr = list(map(int, input("Enter the array elements separated by space: ").split()))

# Calculate the sum of the array

arr\_sum = sum(arr)

# Print the sum of the array

print("The sum of the array is:", arr\_sum)

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

arr = list(map(int, input("Enter the array elements separated by space: ").split()))

# Initialize max\_element to the first element of the array

max\_element = arr[0]

# Loop through the array to find the maximum element

for element in arr:

if element > max\_element:

max\_element = element

# Print the maximum element of the array

print("The largest element in the array is:", max\_element)

1. **Write a Python Program for array rotation?**

def rotate\_array\_left(arr, num\_positions):

# Copy the first num\_positions elements to a temporary array

temp\_arr = arr[:num\_positions]

# Shift the remaining elements to the left by num\_positions

for i in range(num\_positions, len(arr)):

arr[i - num\_positions] = arr[i]

# Copy the temporary array back to the end of the original array

for i in range(len(temp\_arr)):

arr[len(arr) - num\_positions + i] = temp\_arr[i]

# Test the function

arr = [1, 2, 3, 4, 5]

num\_positions = 2

print("Original Array:", arr)

rotate\_array\_left(arr, num\_positions)

print("Array after rotating", num\_positions, "positions to the left:", arr)

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

def split\_and\_add(arr, n):

# splitting array into two parts

part1 = arr[:n]

part2 = arr[n:]

# adding the first part to the end

res = part2 + part1

# returning the resultant array

return res

# Example usage

arr = [1, 2, 3, 4, 5]

n = 2

res = split\_and\_add(arr, n)

print(res) # Output: [3, 4, 5, 1, 2]

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

def is\_monotonic(arr):

# check if array is increasing or decreasing

increasing = 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

# example usage

arr1 = [1, 2, 3, 4, 5]

arr2 = [5, 4, 3, 2, 1]

arr3 = [1, 2, 2, 3, 4, 5]

arr4 = [1, 2, 3, 2, 1]

print(is\_monotonic(arr1)) # True

print(is\_monotonic(arr2)) # True

print(is\_monotonic(arr3)) # True

print(is\_monotonic(arr4)) # False