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

# Function to find the sum of an array

def array\_sum(arr):

return sum(arr)

# Input an array of numbers

arr = [int(x) for x in input("Enter an array of numbers separated by spaces: ").split()]

# Calculate and print the sum of the array

result = array\_sum(arr)

print(f"The sum of the array is {result}")

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

# Function to find the largest element in an array

def find\_largest(arr):

if not arr:

return None

max\_element = arr[0]

for element in arr:

if element > max\_element:

max\_element = element

return max\_element

# Input an array of numbers

arr = [int(x) for x in input("Enter an array of numbers separated by spaces: ").split()]

# Find and print the largest element

result = find\_largest(arr)

print(f"The largest element in the array is {result}")

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

# Function to rotate an array to the left by a given number of positions

def rotate\_array\_left(arr, positions):

positions %= len(arr)

return arr[positions:] + arr[:positions]

# Input an array of numbers

arr = [int(x) for x in input("Enter an array of numbers separated by spaces: ").split()]

# Input the number of positions to rotate left

positions = int(input("Enter the number of positions to rotate left: "))

# Rotate the array and print the result

result = rotate\_array\_left(arr, positions)

print(f"The rotated array is {result}")

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

# Function to split the array and add the first part to the end

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

if split\_index < 0 or split\_index >= len(arr):

return "Invalid split index"

return arr[split\_index:] + arr[:split\_index]

# Input an array of numbers

arr = [int(x) for x in input("Enter an array of numbers separated by spaces: ").split()]

# Input the split index

split\_index = int(input("Enter the split index: "))

# Perform the split and addition operation

result = split\_and\_add(arr, split\_index)

print(f"The modified array is {result}")

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

# Function to check if an array is monotonic

def is\_monotonic(arr):

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

return increasing or decreasing

# Input an array of numbers

arr = [int(x) for x in input("Enter an array of numbers separated by spaces: ").split()]

# Check if the array is monotonic and print the result

result = is\_monotonic(arr)

if result:

print("The given array is monotonic.")

else:

print("The given array is not monotonic.")