* Write a Python Program to find sum of array?

# Function to calculate the sum of an array

def sum\_of\_array(arr):

return sum(arr)

# Input the array elements from the user

elements = input("Enter the array elements separated by space: ")

array = list(map(int, elements.split()))

# Calculate and display the sum

result = sum\_of\_array(array)

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

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

# Function to find the largest element in an array

def find\_largest\_element(arr):

if not arr:

return "Array is empty"

else:

return max(arr)

# Input the array elements from the user

elements = input("Enter the array elements separated by space: ")

array = list(map(int, elements.split()))

# Find and display the largest element

result = find\_largest\_element(array)

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

* Write a Python Program for array rotation?

# Function to rotate an array to the left by 'd' positions

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

n = len(arr)

d = d % n # Ensure d is within the range of array size

# Rotate the array using slicing

rotated\_array = arr[d:] + arr[:d]

return rotated\_array

# Input the array elements from the user

elements = input("Enter the array elements separated by space: ")

array = list(map(int, elements.split()))

# Input the number of positions for rotation

rotation\_positions = int(input("Enter the number of positions for rotation: "))

# Perform array rotation and display the result

rotated\_result = rotate\_array\_left(array, rotation\_positions)

print(f"The array after rotating to the left by {rotation\_positions} positions is: {rotated\_result}")

* 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\_to\_end(arr, k):

n = len(arr)

if k > 0 and k < n:

# Split the array and add the first part to the end

split\_array = arr[:k]

new\_array = arr[k:] + split\_array

return new\_array

else:

return "Invalid value of k. It should be greater than 0 and less than the array size."

# Input the array elements from the user

elements = input("Enter the array elements separated by space: ")

array = list(map(int, elements.split()))

# Input the value of 'k' for splitting

k\_value = int(input("Enter the value of 'k' for splitting: "))

# Perform splitting and adding to end, then display the result

result = split\_and\_add\_to\_end(array, k\_value)

print(f"The array after splitting at index {k\_value} and adding the first part to the end is: {result}")

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

# Function to check if the array is monotonic

def is\_monotonic(arr):

increasing = decreasing = True

# Check for increasing monotonicity

for i in range(1, len(arr)):

if arr[i] < arr[i - 1]:

increasing = False

break

# Check for decreasing monotonicity

for i in range(1, len(arr)):

if arr[i] > arr[i - 1]:

decreasing = False

break

# The array is monotonic if either increasing or decreasing

return increasing or decreasing

# Input the array elements from the user

elements = input("Enter the array elements separated by space: ")

array = list(map(int, elements.split()))

# Check if the array is monotonic and display the result

result = is\_monotonic(array)

if result:

print("The array is monotonic.")

else:

print("The array is not monotonic.")