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

**Ans:- def array\_sum(arr):**

**return sum(arr)**

**# Example usage:**

**my\_array = [1, 2, 3, 4, 5]**

**result = array\_sum(my\_array)**

**print("Sum of the array:", result)**

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

**Ans:- def find\_largest\_element(arr):**

**"""**

**Finds the largest element in an array.**

**Arguments:**

**arr -- The input array.**

**Returns:**

**The largest element in the array.**

**"""**

**max\_element = arr[0] # Assume the first element is the largest**

**for element in arr:**

**if element > max\_element:**

**max\_element = element**

**return max\_element**

**# Example usage:**

**my\_array = [12, 45, 78, 23, 56]**

**largest\_element = find\_largest\_element(my\_array)**

**print("Largest element in the array:", largest\_element)**

1. Write a Python Program for array rotation?

**Ans:- def rotate\_array(arr, k):**

**"""**

**Rotates an array to the right by k positions.**

**Arguments:**

**arr -- The input array.**

**k -- The number of positions to rotate the array.**

**Returns:**

**The rotated array.**

**"""**

**n = len(arr)**

**# Adjust k if it's greater than the array length to avoid unnecessary rotations**

**k = k % n**

**rotated\_arr = arr[n-k:] + arr[:n-k]**

**return rotated\_arr**

**# Example usage:**

**my\_array = [1, 2, 3, 4, 5]**

**rotated\_array = rotate\_array(my\_array, 2)**

**print("Original array:", my\_array)**

**print("Rotated array:", rotated\_array)**

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

**Ans:- def split\_and\_add(arr, n):**

**"""**

**Splits an array and adds the first part to the end.**

**Arguments:**

**arr -- The input array.**

**n -- The number of elements to split from the beginning.**

**Returns:**

**The modified array with the first part added to the end.**

**"""**

**split\_arr = arr[:n]**

**remaining\_arr = arr[n:]**

**modified\_arr = remaining\_arr + split\_arr**

**return modified\_arr**

**# Example usage:**

**my\_array = [1, 2, 3, 4, 5]**

**split\_size = 2**

**modified\_array = split\_and\_add(my\_array, split\_size)**

**print("Original array:", my\_array)**

**print("Modified array:", modified\_array)**

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

**Ans:- def is\_monotonic(arr):**

**if len(arr) <= 2:**

**return True**

**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**

**# Example usage:**

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

**print(is\_monotonic(arr1)) # Output: True**

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

**print(is\_monotonic(arr2)) # Output: True**

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

**print(is\_monotonic(arr3)) # Output: False**