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

ANS:-

**# Python 3 code to find sum**

**# of elements in given array**

**def \_sum(arr):**

**# initialize a variable**

**# to store the sum**

**# while iterating through**

**# the array later**

**sum = 0**

**# iterate through the array**

**# and add each element to the sum variable**

**# one at a time**

**for i in arr:**

**sum = sum + i**

**return(sum)**

**# main function**

**if \_\_name\_\_ == "\_\_main\_\_":**

**# input values to list**

**arr = [12, 3, 4, 15]**

**# calculating length of array**

**n = len(arr)**

**# calling function ans store the sum in ans**

**ans = \_sum(arr)**

**# display sum**

**print('Sum of the array is ', ans)**

**Output**

Sum of the array is 34

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

**ANS:-**

**# Python3 program to find maximum**

**# in arr[] of size n**

**# python function to find maximum**

**# in arr[] of size n**

**def largest(arr, n):**

**# Initialize maximum element**

**max = arr[0]**

**# Traverse array elements from second**

**# and compare every element with**

**# current max**

**for i in range(1, n):**

**if arr[i] > max:**

**max = arr[i]**

**return max**

**# Driver Code**

**arr = [10, 324, 45, 90, 9808]**

**n = len(arr)**

**Ans = largest(arr, n)**

**print("Largest in given array ", Ans)**

**Output**

Largest in given array 9808

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

**ANS:-**

**# Python program to left-rotate the given array**

**# Function reverse the given array**

**# by swapping first and last numbers.**

**def reverse(start, end, arr):**

**# No of iterations needed for reversing the list**

**no\_of\_reverse = end-start+1**

**# By incrementing count value swapping**

**# of first and last elements is done.**

**count = 0**

**while((no\_of\_reverse)//2 != count):**

**arr[start+count], arr[end-count] = arr[end-count], arr[start+count]**

**count += 1**

**return arr**

**# Function takes array, length of**

**# array and no of rotations as input**

**def left\_rotate\_array(arr, size, d):**

**# Reverse the Entire List**

**start = 0**

**end = size-1**

**arr = reverse(start, end, arr)**

**# Divide array into twosub-array**

**# based on no of rotations.**

**# Divide First sub-array**

**# Reverse the First sub-array**

**start = 0**

**end = size-d-1**

**arr = reverse(start, end, arr)**

**# Divide Second sub-array**

**# Reverse the Second sub-array**

**start = size-d**

**end = size-1**

**arr = reverse(start, end, arr)**

**return arr**

**arr = [1, 2, 3, 4, 5, 6, 7, 8]**

**size = 8**

**d = 1**

**print('Original array:', arr)**

**# Finding all the symmetric rotation number**

**if(d <= size):**

**print('Rotated array: ', left\_rotate\_array(arr, size, d))**

**else:**

**d = d % size**

**print('Rotated array: ', left\_rotate\_array(arr, size, d))**

**Output**

Original array: [1, 2, 3, 4, 5, 6, 7, 8]

Rotated array: [2, 3, 4, 5, 6, 7, 8, 1]

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

**ANS:-**

**# Python program to split array and move first**

**# part to end.**

**def splitArr(arr, n, k):**

**for i in range(0, k):**

**x = arr[0]**

**for j in range(0, n-1):**

**arr[j] = arr[j + 1]**

**arr[n-1] = x**

**# main**

**arr = [12, 10, 5, 6, 52, 36]**

**n = len(arr)**

**position = 2**

**splitArr(arr, n, position)**

**for i in range(0, n):**

**print(arr[i], end=' ')**

**Output**

5 6 52 36 12 10

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

**ANS:-**

***# Check if given array is Monotonic***

**def isMonotonic(A):**

**x, y = [], []**

**x.extend(A)**

**y.extend(A)**

**x.sort()**

**y.sort(reverse=True)**

**if(x == A or y == A):**

**return True**

**return False**

***# Driver program***

**A = [6, 5, 4, 4]**

***# Print required result***

**print(isMonotonic(A))**

**Output**

True