**Muhammad Talha Shafiq Choudhary**

**Reg# SP21-BSE-008**

**LAB Week 4:**

**Name:**

**Reg#:**

**Question 1:** Write a C program that finds the average of n numbers. Take the value of n from the user.

**Solution:**

**#include<stdio.h>**

**#define MAX\_ARRAY 100**

**int main()**

**{**

**int array[MAX\_ARRAY],i,n,sum=0,average;**

**printf("Enter the size of array:\n");**

**scanf("%d",&n);**

**printf("Enter the elements in array:\n");**

**for(i=0;i<n;i++)**

**{**

**scanf("%d",&array[i]);**

**}**

**for(i=0;i<n;i++)**

**{**

**sum=sum+array[i];**

**}**

**printf("The sum is:%d\n",sum);**

**average=sum/n;**

**printf("The average:%d",average);**

**return 0;**

**}**

**Question 2:** Write a C program that takes n numbers from user in an array named Array1. Then you have to take two more arrays (Array2 and Array3) of the same size as Array1. Now you have to filter even and odd numbers from Array1 to Array2(Even) and Array3(Odd). The last task of your program will be to show sum and largest value of both Array2 and Array3.

**Solution:** **#include<stdio.h>**

**int main()**

**{**

**int array1[10],array2[10],array3[10],largest,sum1=0,sum2=0,i,j=0,k=0;**

**for(i=0;i<10;i++)**

**{**

**printf("Enter a number %d :",i+1);**

**scanf("%d",&array1[i]);**

**}**

**for(i=0;i<10;i++)**

**{**

**if(array1[i]%2==0)**

**{**

**array2[j]=array1[i];**

**j++;**

**}**

**else**

**{**

**array3[k]=array1[i];**

**k++;**

**}**

**}**

**printf("\nArra2 elements are:\n");**

**for(i=0;i<j;i++)**

**{**

**printf(" %d\n",array2[i]);**

**sum1=sum1+array2[i];**

**}**

**printf("sum of array2 Elements is %d",sum1);**

**printf("\nArray3 elements are:\n");**

**for(i=0;i<k;i++)**

**{**

**printf(" %d\n",array3[i]);**

**sum2=sum2+array3[i];**

**}**

**printf("sum of array3 Elements is %d\n",sum2);**

**largest=array2[0];**

**for(i=0;i<j;i++)**

**{**

**if(largest<array2[i])**

**{**

**largest=array2[i];**

**}**

**}**

**printf("largest element in array2 is %d\n",largest);**

**for(i=0;i<k;i++)**

**{**

**if(array3[0] < array3[i])**

**{**

**array3[0]=array3[i];**

**}**

**}**

**printf("largest element in array3 is %d",array3[0]);**

**}**