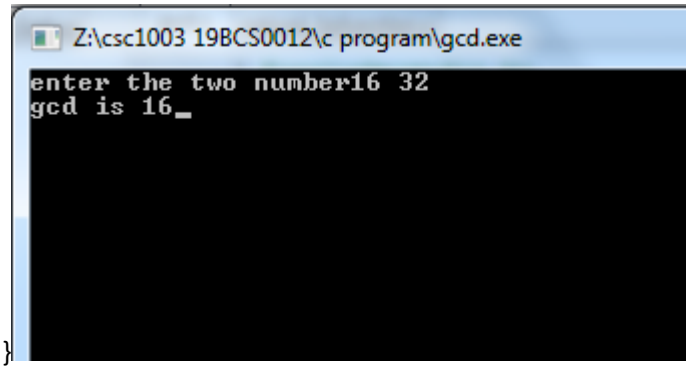
ACTIVITY 5:

Reg no:19BCS0012

1:GCD

```
#include<stdio.h>
void gcd();
void main()
{
gcd();
        getch();
}
void gcd()
{
        int n1,i,n2,res;
        printf("enter the two number");
        scanf("%d%d",&n1,&n2);
        for(i=2;i<=n1&&n2;i++)
        {
                if(n1%i==0&&n2%i==0);
                res=i;
                }
{
        printf("gcd is %d",res);

}
```

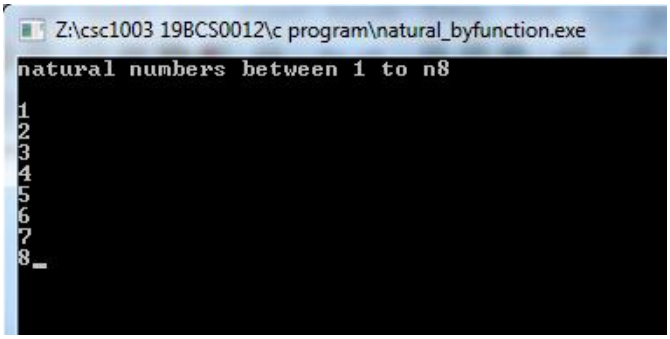


}

2:NATURAL NUMBER FROM ONE TO N

```
#include<stdio.h>

void natural();

void main()

{

        printf("natural numbers between 1 to n");

        natural();

        getch();


}

void natural()

{


        int i,n;

scanf("%d",&n);

        for(i=1;i<=n;i++)

        {

        printf("\n%d",i);
```

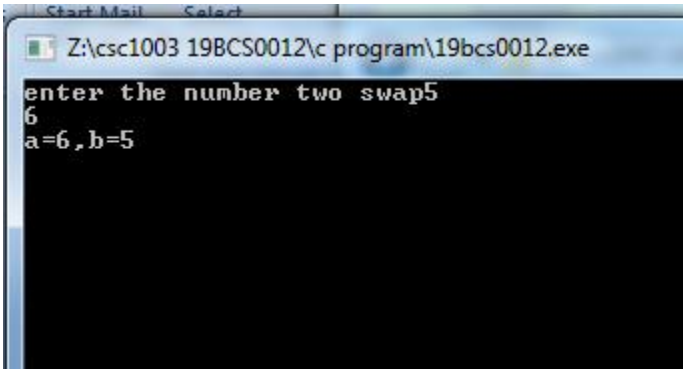
```
}

}//OUTPUT
```



3.swap_by_call_by_value_call_by_refference_

```
#include<stdio.h>

void swap();

void main()

{

                    swap();

getch();

}

void swap()

{

        int temp,a,b;

        printf("enter the number two swap");

        scanf("%d%d",&a,&b);

        temp=a;

        a=b;

        b=temp;

        printf("a=%d,b=%d",a,b);
```

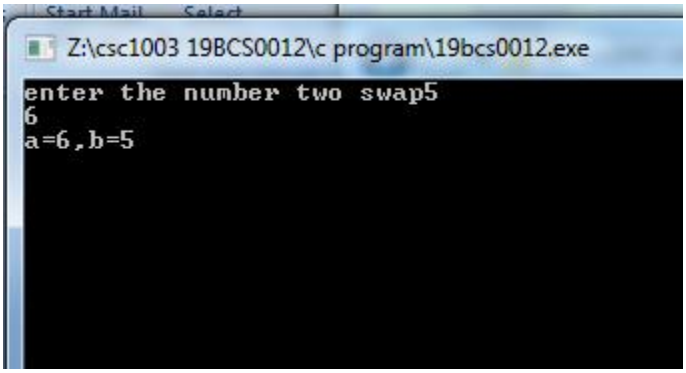
```
        getch();
}
```



Swaping using call by refrence

```
#include<stdio.h>
void swap(int*,int*);
void main()
 {
                int a,b;
printf("enter the number two swap");
        scanf("%d%d",&a,&b);
swap(&a,&b);
printf(" a=%d,b=%d",a,b);
getch();
}
void swap(int*a,int*b)
```

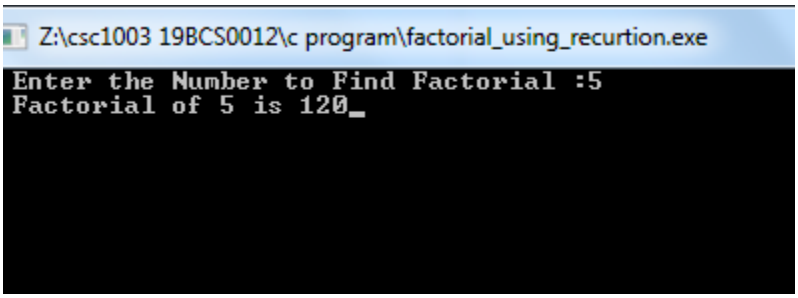
```
{
int temp;

        temp=*a;
        *a=*b;
        *b=temp;

}
```



4.Factorial using the recurtion:

```
#include<stdio.h>
#include<conio.h>
int fact(int);
void main()
{
   int x,n;
   printf(" Enter the Number to Find Factorial :");
   scanf("%d",&n);
```

```
    x=fact(n);
    printf(" Factorial of %d is %d",n,x);


    getch();
}
int fact(int n)
{
    if(n==0)
       return(1);
    return(n*fact(n-1));
}
```

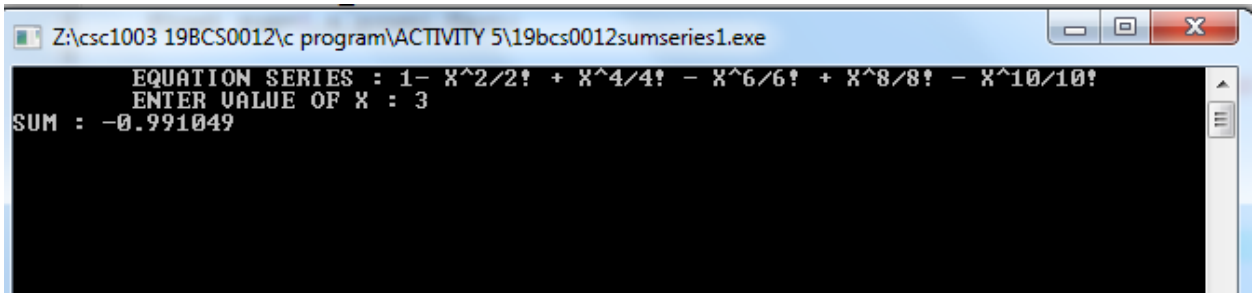


5.Write a C program to calculate the following

i. sum: sum=1-x2 /2! +x4 /4!-x6 /6!+x8 /8!-x10/10! ……..

```
void main()
{
    int counter,f_coun;
    float sum=0,x,power,fact;

    printf("\tEQUATION SERIES : 1- X^2/2! + X^4/4! - X^6/6! + X^8/8! - X^10/10!");

    printf("\n\tENTER VALUE OF X : ");
    scanf("%f",&x);

    for(counter=0, power=0; power<=10; counter++,power=power+2)
    {
        fact=1;

  for(f_coun=power; f_coun>=1; f_coun--)
     fact *= f_coun;

  sum=sum+(pow(-1,counter)*(pow(x,power)/fact));
}
  printf("SUM : %f",sum);
 getch();
}
```

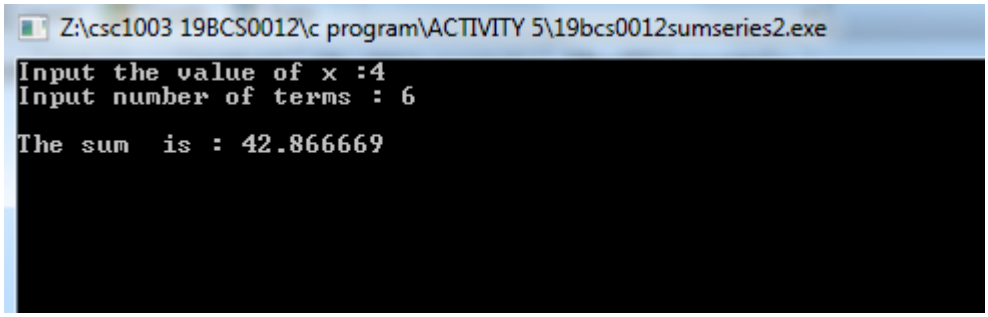
output



ii) sum series

```
#include <stdio.h>


void main()
{
        float x,sum,no_row;
        int i,n;
        printf("Input the value of x :");
        scanf("%f",&x);
        printf("Input number of terms : ");
        scanf("%d",&n);
        sum =1; no_row = 1;
        for (i=1;i<n;i++)
        {
          no_row = no_row*x/(float)i;
          sum =sum+ no_row;
        }
        printf("\nThe sum  is : %f\n",sum);
getch();
```

output:

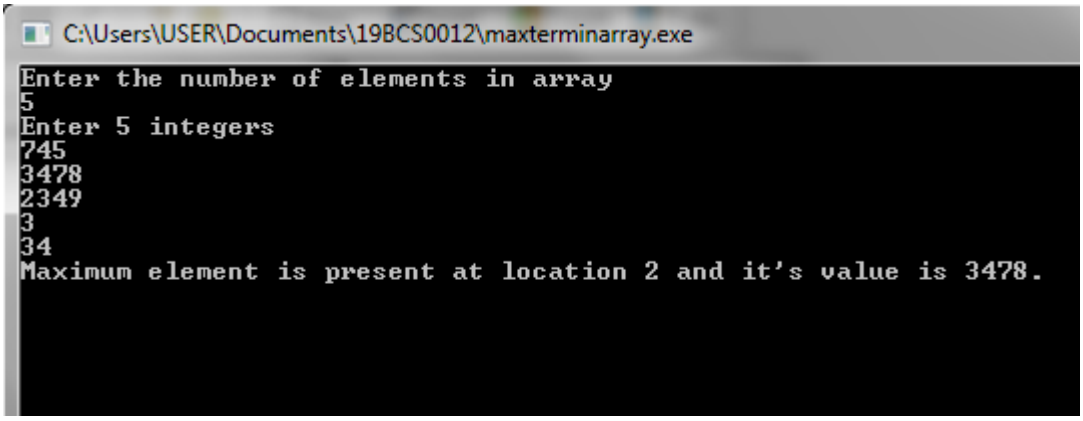


ACTIVITY 6

```
#include<stdio.h>

int main()

{

 int array[100], maximum, size, c, location = 1;


 printf("Enter the number of elements in array\n");

 scanf("%d", &size);


 printf("Enter %d integers\n", size);


 for (c = 0; c < size; c++)

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


 maximum = array[0];


 for (c = 1; c < size; c++)

 {

  if (array[c] > maximum)
```

```
   {
      maximum  = array[c];
      location = c+1;
   }
  }

  printf("Maximum element is present at location %d and it's value is %d.\n", location, maximum);
  getch();
  return 0;
}
```

OUTPUT

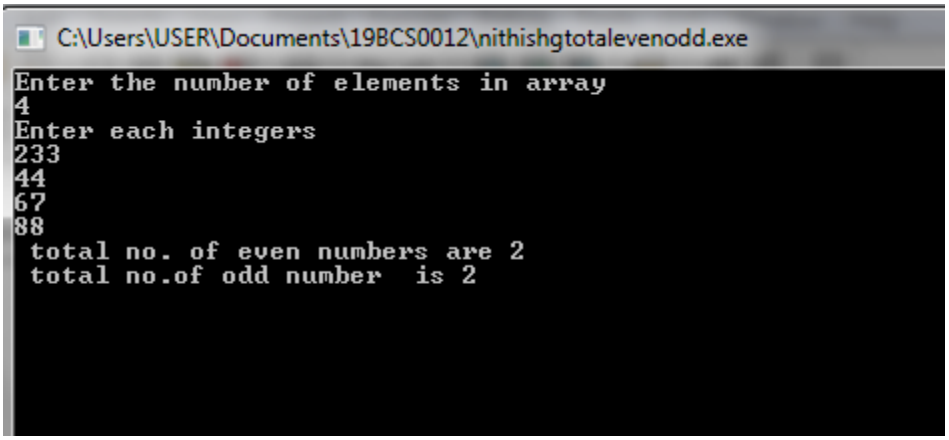


Find the count of total number of even and odd number from array

```
#include<stdio.h>
void main()
{
    int a[100],n,i,eve=0,odd=0;

  printf("Enter the number of elements in array\n");
```

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


  printf("Enter each integers\n");


  for (i = 0; i < n; i++)
{
        scanf("%d", &a[i]);
}
  for (i = 0; i < n; i++)
{
if(a[i]%2==0)
eve++;
else
odd++;
}
printf(" total no. of even numbers are %d\n total no.of odd number  is %d",eve,odd);


getch();
}
```

Output

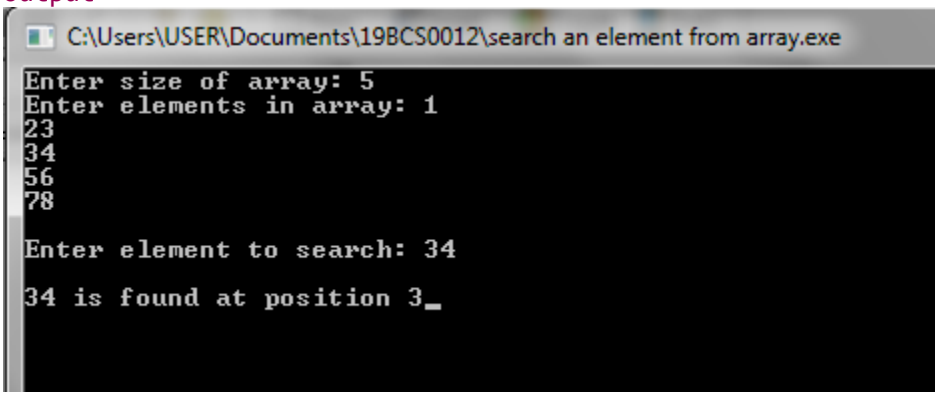


3.Search an element from array

```
#include <stdio.h>


#define MAX_SIZE 100  // Maximum array size


int main()
{
   int arr[MAX_SIZE];
   int size, i, toSearch, found;


   /* Input size of array */
   printf("Enter size of array: ");
   scanf("%d", &size);
   printf("Enter elements in array: ");
   for(i=0; i<size; i++)
   {
      scanf("%d", &arr[i]);
   }
```

```
   printf("\nEnter element to search: ");
   scanf("%d", &toSearch);
   found = 0;

   for(i=0; i<size; i++)
   {

      if(arr[i] == toSearch)
      {
         found = 1;
         break;
      }
   }

   if(found == 1)
   {
      printf("\n%d is found at position %d", toSearch, i + 1);
   }
   else
   {
   printf("\n%d is not found in the array", toSearch);
   }
getch();
   return 0;
}
```

Output

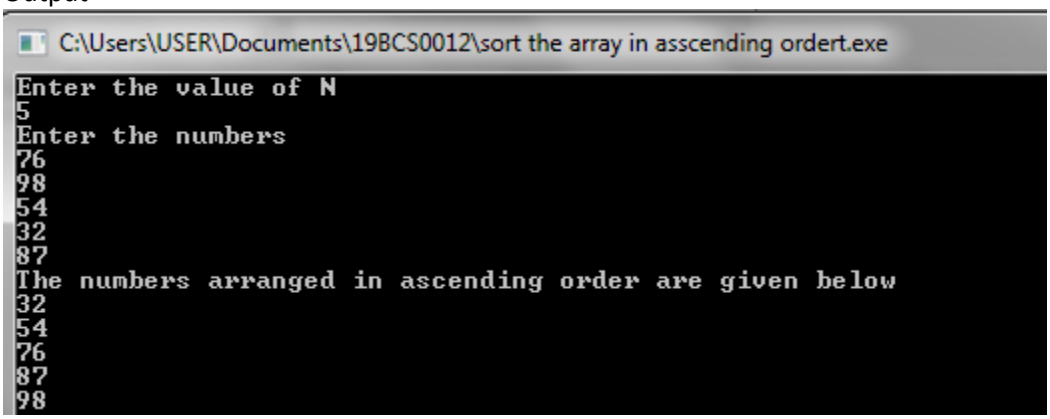


4.Sort the array in ascending order

```
#include <stdio.h>
void main()
{

   int i, j, a, n, number[30];
   printf("Enter the value of N \n");
   scanf("%d", &n);

   printf("Enter the numbers \n");
   for (i = 0; i < n; ++i)
      scanf("%d", &number[i]);

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

      for (j = i + 1; j < n; ++j)
      {

         if (number[i] > number[j])
         {

            a =  number[i];
            number[i] = number[j];
            number[j] = a;
```

```
          }

        }

      }

      printf("The numbers arranged in ascending order are given below \n");
      for (i = 0; i < n; ++i)
         printf("%d\n", number[i]);
 getch();
   }
```

Output



5.Addition of two matrix

```
#include <stdio.h>

int main()
{
  int m, n, c, d, first[10][10], second[10][10], sum[10][10];

  printf("Enter the number of rows and columns of matrix\n");
  scanf("%d%d", &m, &n);
  printf("Enter the elements of first matrix\n");

  for (c = 0; c < m; c++)
    for (d = 0; d < n; d++)
      scanf("%d", &first[c][d]);

  printf("Enter the elements of second matrix\n");

  for (c = 0; c < m; c++)
    for (d = 0 ; d < n; d++)
      scanf("%d", &second[c][d]);

  printf("Sum of entered matrices:-\n");
```

```
  for (c = 0; c < m; c++) {
    for (d = 0 ; d < n; d++) {
      sum[c][d] = first[c][d] + second[c][d];
      printf("%d\t", sum[c][d]);
    }
    printf("\n");
  }
 getch();
  return 0;
}
```

Output