Program1:-

```
#include<stdio.h>

main()
{
 int arr[50],size,i,large,small;

 printf("Enter the size of array 'Not more than 50'\n");
 scanf("%d",&size);
 printf("Enter the Values\n");

 for(i=0;i<size;i++)
 {
  scanf("%d",&arr[i]);
 }

 large = arr[0];
 small = arr[0];
 for(i=1;i<size;i++)
 {
   if(large<arr[i])
   {
    large = arr[i];
   }

   if(small>arr[i])
   {
    small = arr[i];
   }
 }

 printf("The largest among the given numbers is : %d\n",large);
 printf("The smallest among the given numbers is : %d",small);
}
```

Program2:-

```
#include<stdio.h>

main()
{
 int arr1[50],arr2[50],size,i;

 printf("Enter the size of array 'Not more than 50'\n");
 scanf("%d",&size);
 printf("Enter the Values\n");

 for(i=0;i<size;i++)  //initializing the first array
 {
  scanf("%d",&arr1[i]);
 }
```

```
 for(i=size;i>0;i--)  //initializing second array
 {//used to reverse the first array
  arr2[i-1] = arr1[size-i];
 }
}
```

Program3:-

```
#include<stdio.h>

main()
{
 int arr[50],size,i,temp;

 printf("Enter the size of array 'Not more than 50'\n");
 scanf("%d",&size);
 printf("Enter the Values\n");

 for(i=0;i<size;i++)  //initializing the array
 {
  scanf("%d",&arr[i]);
 }


 for(i=0;i<=size/2;i++)
 {//used to reverse the array
  temp = arr[i];
  arr[i] = arr[size-(i+1)];
  arr[size-(i+1)] = temp;
 }

 printf("Reversed Version\n");

 for(i=0;i<size;i++)
 {
  printf("%d ",arr[i]);
 }
}
```

Program4:-

```
#include<stdio.h>

main()
{
 int arr1[50],arr2[50],temp,size,i,j;

 printf("Enter the size of array 'Not more than 50'\n");
 scanf("%d",&size);
 printf("Enter the Values\n");

 for(i=0;i<size;i++)  //initializing the first array
 {
  scanf("%d",&arr1[i]);
```

```
 }


 for(i=0;i<size;i++)
 {//here we arrange all the elements in descending order and store in arr2[]
  arr2[i] = arr1[i];
  for(j=i;j<size;j++)
  {
   if(arr2[i]<arr1[j])
   {
    temp = arr2[i];
    arr2[i] = arr1[j];
    arr1[j] = temp;
   }
  }
 }
 printf("Descending Order\n");

 for(i=0;i<size;i++)
 {
  printf("%d ",arr2[i]);
 }
}
```

Program5:-

```
#include<stdio.h>

main()
{
 int arr[50],sum=0,size,i;

 printf("Enter the size of array 'Not more than 50'\n");
 scanf("%d",&size);
 printf("Enter the Values\n");

 for(i=0;i<size;i++)
 {
  scanf("%d",&arr[i]);
  sum = sum + arr[i];
 }
 printf("The Sum of the numbers in the array is = %d",sum);
}
```

Program6:-

```
#include<stdio.h>

main()
{
 int arr[50],count=0,size,i;

 printf("Enter the size of array 'Not more than 50'\n");
 scanf("%d",&size);
```

```
 printf("Enter the Values\n");

 for(i=0;i<size;i++)
 {
  scanf("%d",&arr[i]);
  if(arr[i]%2==0)
  {
   count++;
  }
 }
 printf("There are %d even numbers in the array",count);
}
```

Program7:-

```
#include<stdio.h>

int checkPrime(int);

main()
{
 int arr[50],count=0,size,i;

 printf("Enter the size of array 'Not more than 50'\n");
 scanf("%d",&size);
 printf("Enter the Values\n");

 for(i=0;i<size;i++)
 {
  scanf("%d",&arr[i]);

 }

 printf("The Prime Numbers are :- ");

 for(i=0;i<size;i++)
 {
  count = checkPrime(arr[i]);
  if(count==2)
  {
   printf("%d ",arr[i]);
  }
 }
}

int checkPrime(int no)
{
 int x, count=0;
 x=1;

 while(x<=no)
 {
  if((no%x)==0)
```

```
  {
   count++;
  }
  x++;
 }
 return(count);
}
```

Program8:-

```
#include<stdio.h>

main()
{
 int arr[50],count=0,size,i,element;

 printf("Enter the size of array 'Not more than 50'\n");
 scanf("%d",&size);

 printf("Enter the Values\n");

 for(i=0;i<size;i++)
 {
  scanf("%d",&arr[i]);
 }

 printf("Enter the element you want to search for\n");
 scanf("%d",&element);

 for(i=0;i<size;i++)
 {
  if(element==arr[i])
  {
   count++;
  }
 }

 if(count!=0)
 {
  printf("The element'%d' is present in the array\n",element);
 }
 else
 {
  printf("The element'%d' is not present in the array\n",element);
 }

}
```

Program9:-

```
#include<stdio.h>

main()
{
```

```
 int arr1[50][50],arr2[50][50],arr3[50][50],row,col,i,j;

 printf("Enter the rows and columns of the array 'Not more than 50 each'\n");
 scanf("%d%d",&row,&col);
 printf("\nEnter the Values for first array\n\n");

 for(i=0;i<row;i++)  //here we make the 1st 2-d array
 {
  printf("Enter the Values for row %d\n",i+1);
  for(j=0;j<col;j++)
  {
   scanf("%d",&arr1[i][j]);
  }
 }
 printf("Enter the Values for second array\n\n");

 for(i=0;i<row;i++)  //here we make the 2nd 2-d array
 {
  printf("Enter the Values for row %d\n",i+1);
  for(j=0;j<col;j++)
  {
   scanf("%d",&arr2[i][j]);
  }
 }
 printf("The New 2-d Array is:\n");

 for(i=0;i<row;i++)  //here we make the new 2-d array by adding the above two 2-d arrays
 {
  for(j=0;j<col;j++)
  {
   arr3[i][j] = arr1[i][j] + arr2[i][j];
   printf("%d ",arr3[i][j]);
  }
  printf("\n");
 }
}
```

Program10:-

```
#include<stdio.h>

main()
{//this code works for same as well as different number of rows and columns
 int arr1[50][50],arr2[50][50],row,col,i,j;

 printf("Enter the rows and columns of the array 'Not more than 50 each'\n");
 scanf("%d%d",&row,&col);
 printf("\nEnter the Values for first array\n\n");

 for(i=0;i<row;i++)
 {
  printf("Enter the Values for row %d\n",i+1);
  for(j=0;j<col;j++)
```

```
 {
  scanf("%d",&arr1[i][j]);
 }
}


for(i=0;i<col;i++)
{//this block makes the transpose

 for(j=0;j<row;j++)
 {
  arr2[i][j] = arr1[j][i];
 }
}

printf("The Transposed array is:\n");

for(i=0;i<col;i++)
{//this block prints the transpose
 for(j=0;j<row;j++)
 {
  printf("%d ",arr2[i][j]);
 }
 printf("\n");
}
}
```