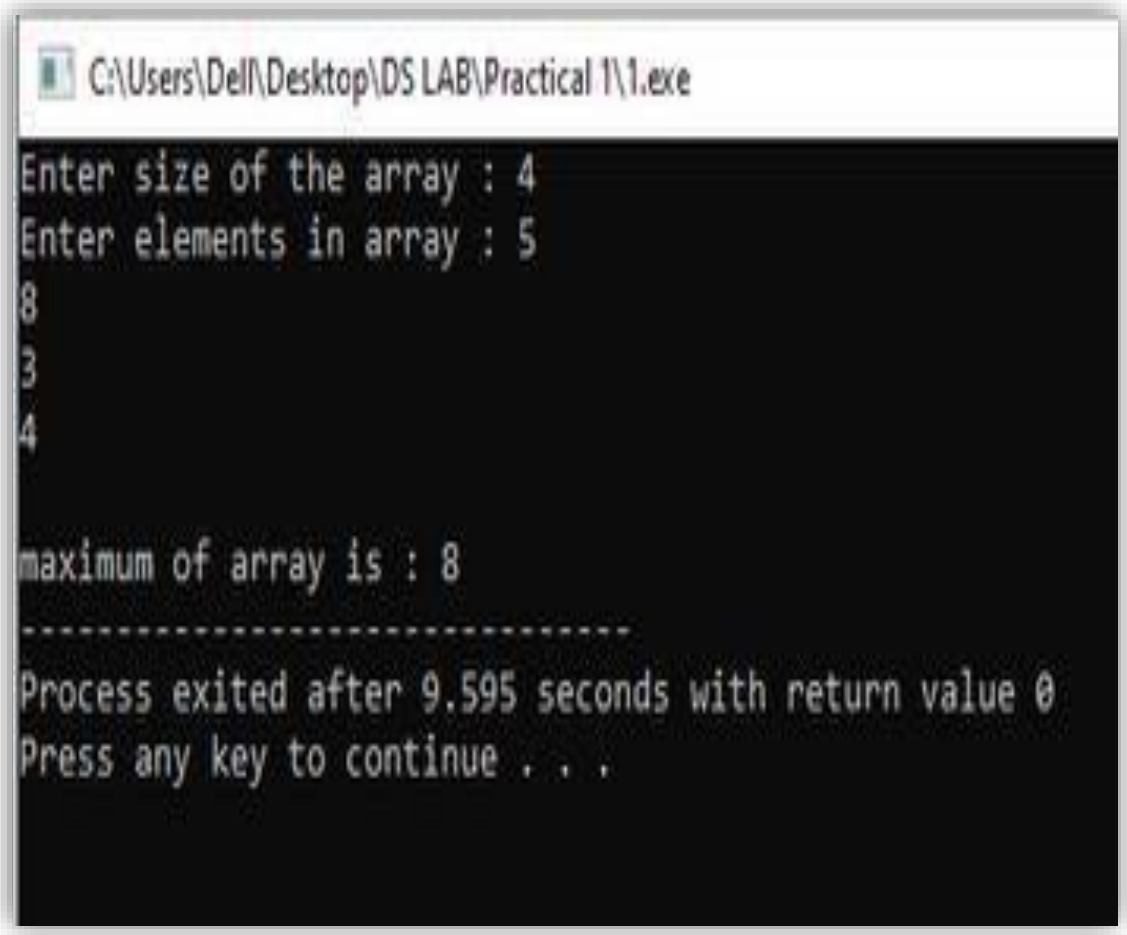
DATA STRUCTURES: ASSIGNMENT- 1

Q1) Write a C program to find maximum element in array.

Code:-

```
#include<stdio.h>
int main()
{
    int a[1000],i,n,min,max;
   printf("Enter size of the array : ");
    scanf("%d",&n);
    printf("Enter elements in array : ");
    for(i=0; i<n; i++)
    {
        scanf("%d",&a[i]);
    }
    min=max=a[0];
    for(i=1; i<n; i++)
```

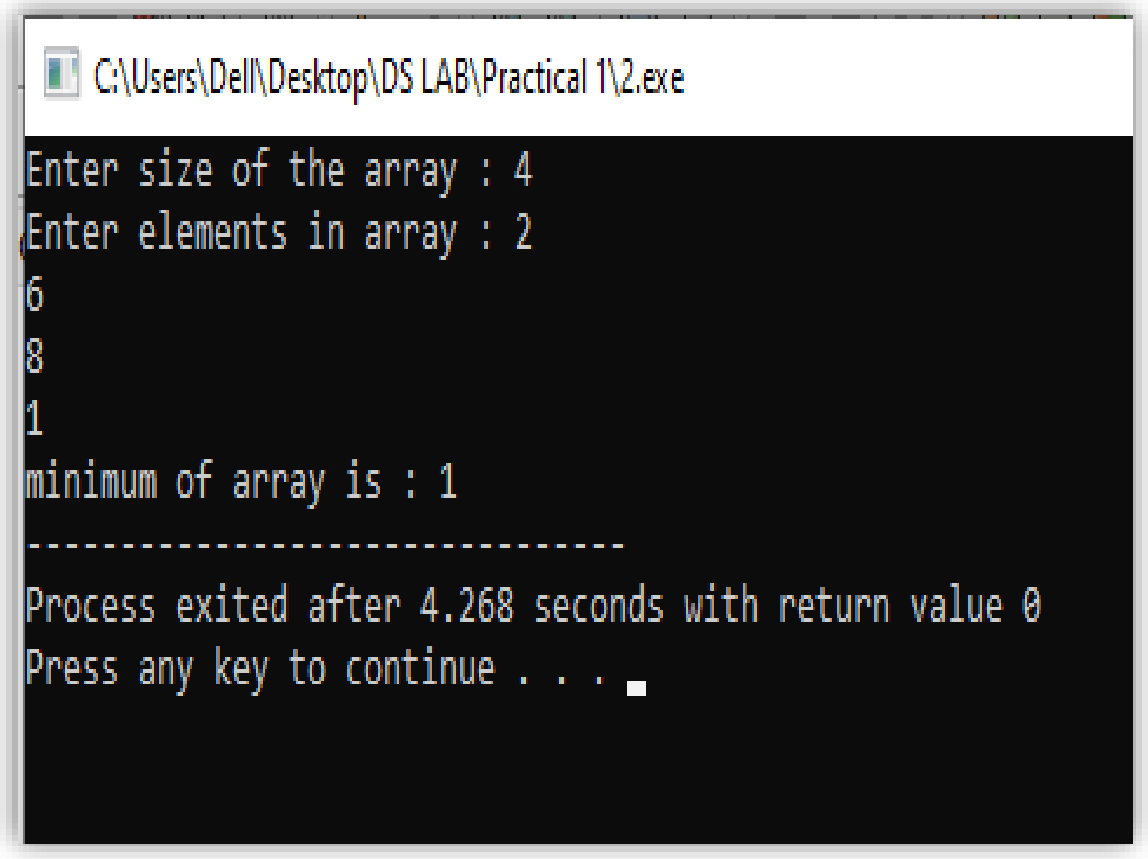
```
{
        if(max<a[i]);
       max=a[i];
   }
      printf("\nmaximum of array is : %d",max);
   return 0;
}
```



Q2) Write a C program to find minimum element in array.

Code:-

```
#include<stdio.h>
int main()
{
   int a[1000],i,n,min,max;
   printf("Enter size of the array : ");
   scanf("%d",&n);
   printf("Enter elements in array : ");
   for(i=0; i<n; i++)
   {
      scanf("%d",&a[i]);
   }
   min=max=a[0];
   for(i=1; i<n; i++)
   {
       if(min>a[i])
                  min=a[i];
   }
    printf("minimum of array is : %d",min);
   return 0;
}
```



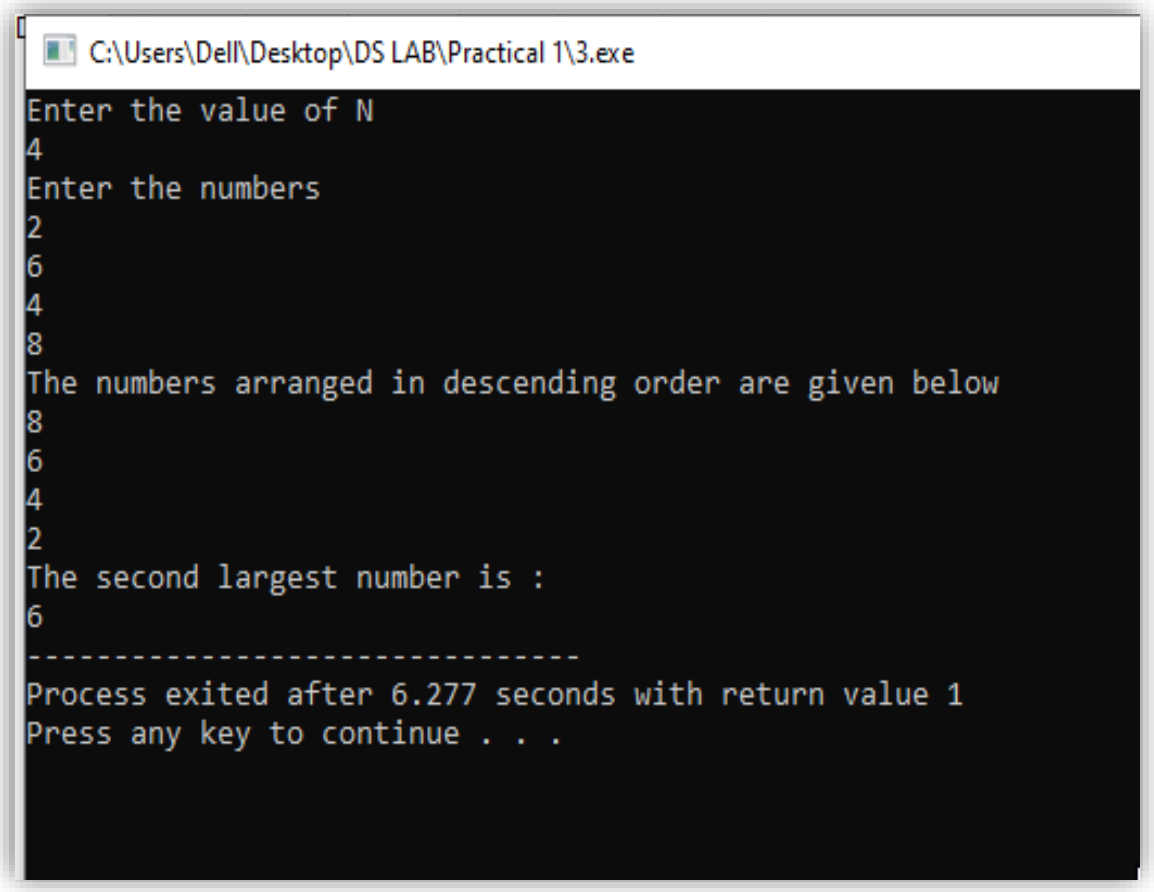
Q3) Write a C program to find second maximum element in array.

Code:-

```
#include <stdio.h>
void main ()
{
 int number[30];
 int i, j, a, n;
 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 descending order are given
below\n");
 for (i = 0; i < n; ++i)
 {
  printf("%d\n", number[i]);
 }
```

```
 printf("The second largest number is :\n");
 printf("%d", number[1]);
}
```



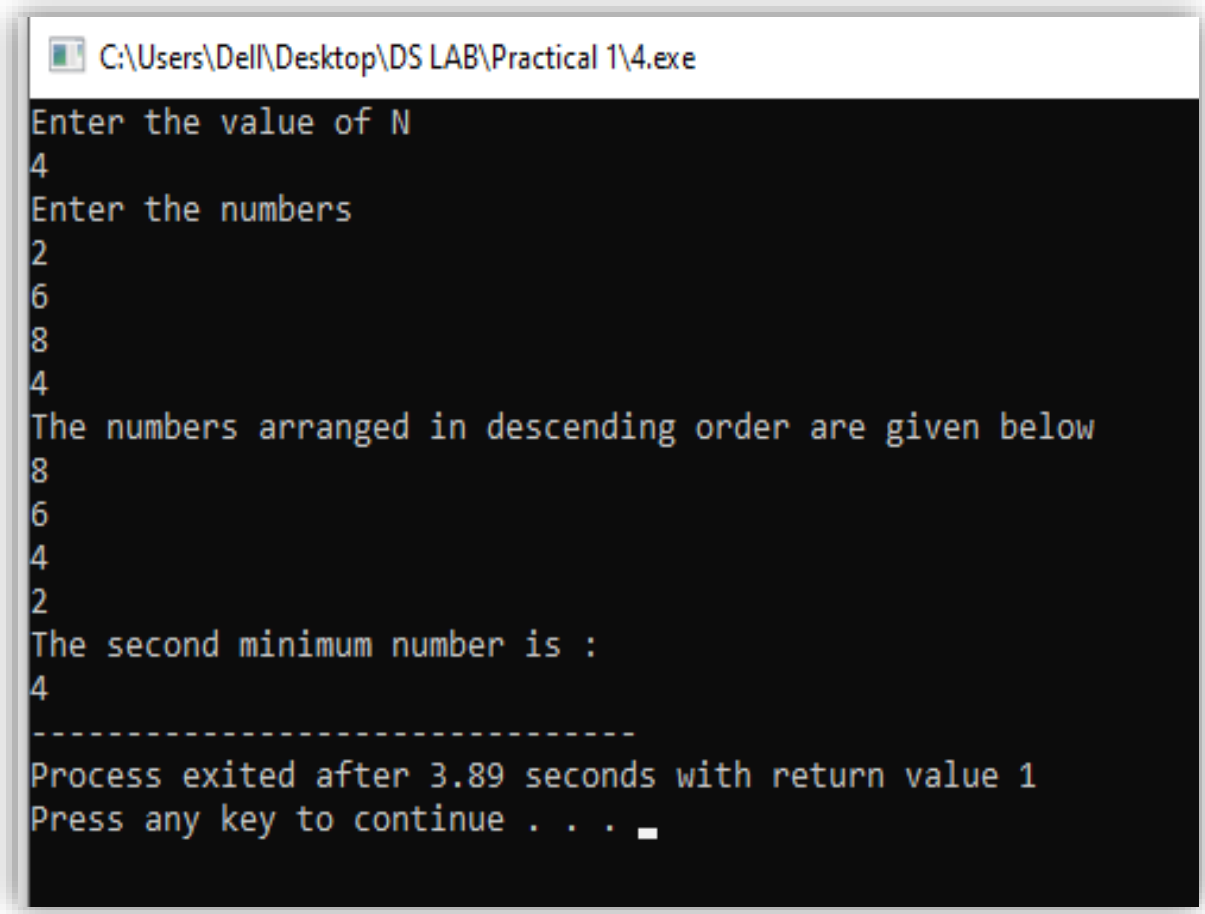
Q4) Write a C program to find second minimum element in array.

Code:-

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

```
int number[30];
int i, j, a, n;
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 descending order are given
below\n");
 for (i = 0; i < n; ++i)
 {
   printf("%d\n", number[i]);
 }
 printf("The second minimum number is :\n");
 printf("%d", number[n-2]);
}
```

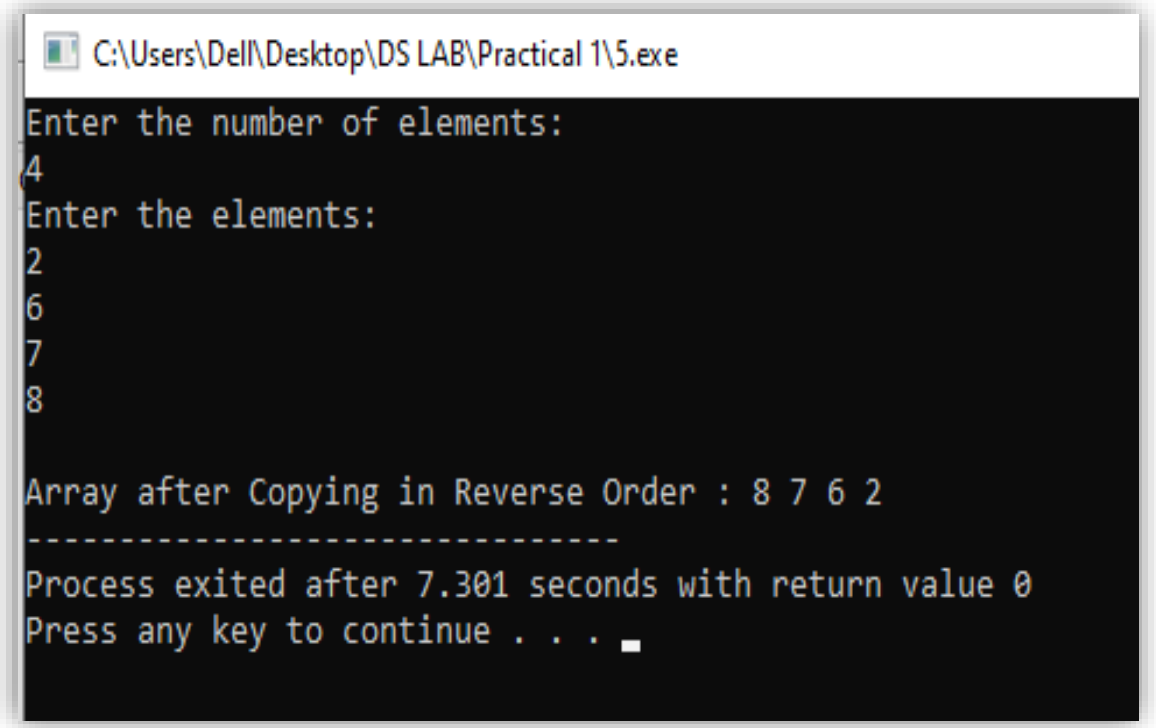


Q5) Write a C Program to copy an array to another array in reverse.

Code:-

```
#include<stdio.h>
int main()
{
	int a[100], b[100], i,n;
	printf("Enter the number of elements:\n");
	scanf("%d", &n);
	printf("Enter the elements:\n");
	for (i = 0; i<n; i++)
	{
		scanf("%d", &a[i]);
	}
	for (i = 0; i<n; i++)
	{
		b[i]=a[n-i-1];
	}
	printf("\nArray after Copying in Reverse Order : ");
	for (i=0; i<n; i++)
	{
		printf("%d ", b[i]);
```

```
}
        return 0;
}
```



Q6) Write a C Program to concatenate arrays.

Code:-

```
#include<stdio.h>
int main()
{
        int n, m, r, i, j;
        int a[10], b[10], Merged[20];
        printf(" Please Enter the First Array Size :: \n");
        scanf("%d", &n);
```

```
printf("Please Enter the First Array Elements : \n");
for(i = 0; i < n; i++)
        {
        scanf("%d", &a[i]);
        }
        printf("\n Please Enter the Second Array Size :\n");
        scanf("%d", &m);

        printf("\nPlease Enter the Second Array Elements :\n");
        for(i = 0; i < m; i++)
        {
        scanf("%d", &b[i]);
        }
        for(i = 0; i < n; i++)
        {
        Merged[i] = a[i];
        }
        r = n + m;
        for(i = 0, j = n; j < r && i < m; i++, j++)
        {
                Merged[j] = b[i];
        }
```

```
    printf("Array Elements After Merging \n");
    for(i = 0; i < r; i++)
    {
    printf(" %d \t ",Merged[i]);
    }
    return 0;
}
```