Week: 7

7) a) Write a C program to find both the largest and smallest number in a list of integers.

AIM:

To find the largest and smallest number in a list of integers.

ALGORITHM:

Step 1: start

Step 2: read n

Step 3: initialize i=0

Step 4: if i<n do as follows. If not goto step 5

Read a[i]

Increment i

Goto step 4

Step 5: small=a[0], large=a[0]

Step 6: initialize i=0

Step 7: if i<n do as follows. If

not goto step 8

If a[i]<small

Assign small=a[i]

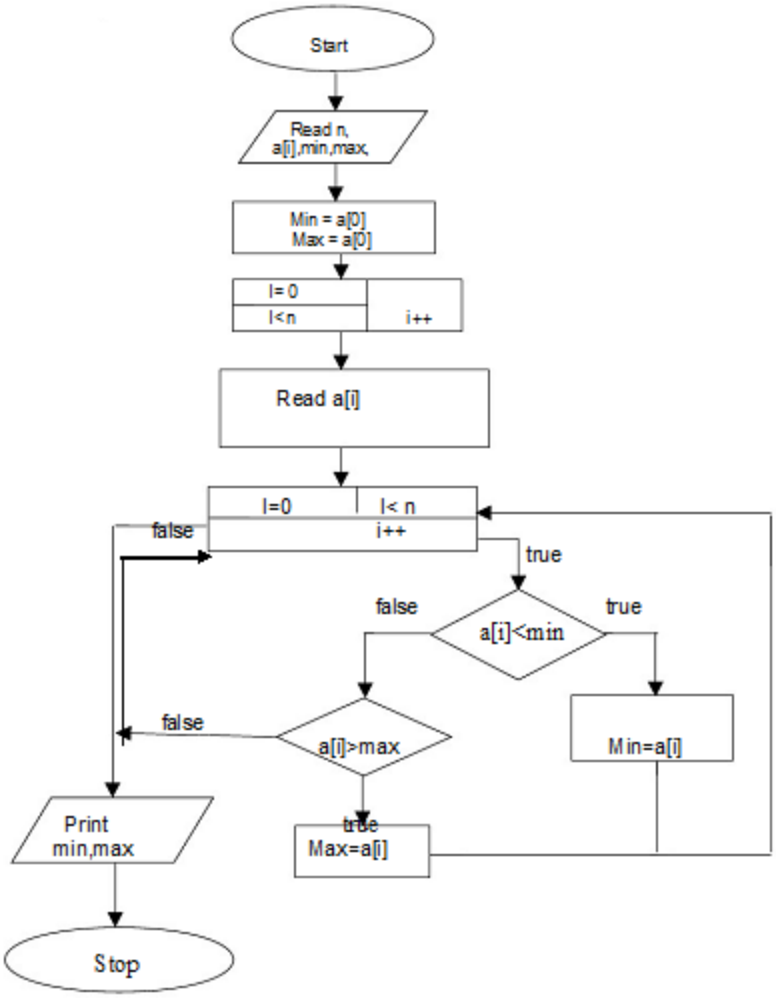
If a[i]>large

Assign large=a[i]

Increment i goto Step 7

Step 8: print small, large

Step 9: stop



Program:

```
#include<stdio.h>
#include<conio.h>
void main()
{ int a[10],i,n,small,large;
  clrscr();
  printf("Enter The Array Size:");
  scanf("%d",&n);
  printf("ENTER  ELEMENTS OF ARRAY");
  for(i=0;i<n;i++) // read the elements of an array
  scanf("%d",&a[i]);
  small=a[0];
  large=a[0];
  for(i=0;i<n;i++)// read the elements of an array
   {          if(a[i]<small)// check the condition for minimum value
          small=a[i];
          if(a[i]>large)//check the condition for maximum value
          large=a[i];
   }
          printf("largest value is:%d\n",large);
          printf("smallest value is:%d\n",small);
          getch();
}
```

INPUT:

```
Enter The Array Size:10
ENTER THE ELEMENTS OF ARRAY
7        10       9        8        6        5        2        3        4        1
```

OUTPUT:

```
largest value is  : 10
smallest value is : 1
```

Record at least 3 results

Signature of faculty with date

7) b) Write a C Program to Sort the Array in an Ascending Order.

Program:

C Program to Sort the Array in an 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]);

}
```

Output:

```
Enter the value of N
6

Enter the numbers
3
78
90
456
780
200
The numbers arranged in ascending order are given below
3
78
90
200
456
780
```

Record at least 3 results

Signature of faculty with date