S.No: 6	Exp. Name: ***Write a C program to Sort the elements using Selection Sort - Smallest element method Technique***	Date:2023-05-04

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Aim:

Write a program to **sort** the given array elements using **selection sort smallest element** method.

At the time of execution, the program should print the message on the console as:

```
Enter value of n :
```

For example, if the user gives the **input** as:

```
Enter value of n : 3
```

Next, the program should print the messages one by one on the console as:

```
Enter element for a[0] :
Enter element for a[1] :
Enter element for a[2] :
```

if the user gives the **input** as:

```
Enter element for a[0] : 22
Enter element for a[1] : 33
Enter element for a[2] : 12
```

then the program should **print** the result as:

```
Before sorting the elements in the array are
Value of a[0] = 22
Value of a[1] = 33
Value of a[2] = 12
After sorting the elements in the array are
Value of a[0] = 12
Value of a[1] = 22
Value of a[2] = 33
```

Fill in the missing code so that it produces the desired result.

Source Code:

SelectionSortDemo6.c

```
#include<stdio.h>
void main()
{
   int a[20],i,j,n,max, temp=0;
   printf("Enter value of n : ");
   scanf("%d",&n);
   for(i=0;i<n;i++)
   {
      printf("Enter element for a[%d] : ",i);
      scanf("%d",&a[i]);
   }
   printf("Before sorting the elements in the array are\n");
```

```
      printf("Value of a[%d] = %d\n",i,a[i]);
   }
   for(i=n-1;i>0;i--)
   {
      max=1;
      for(j=i;j>=0;j--)
      {
         if(a[j]>=a[max])
         {
            max=j;
         }
      }
      temp=a[i];
      a[i]=a[max];
      a[max]=temp;
   }
   printf("After sorting the elements in the array are\n");
   for(i=0;i<n;i++)
   {
    printf("Value of a[%d] = %d\n",i,a[i]);

   }


}
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Enter value of n : 4
Enter element for a[0] : 78
Enter element for a[1] : 43
Enter element for a[2] : 99
Enter element for a[3] : 27
Before sorting the elements in the array are
Value of a[0] = 78
Value of a[1] = 43
Value of a[2] = 99
Value of a[3] = 27
After sorting the elements in the array are
Value of a[0] = 27
Value of a[1] = 43
Value of a[2] = 78
Value of a[3] = 99

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2022-2026-CSE-A
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