

**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,small,index;
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");
for(i=0;i<n;i++)
{
```

```

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

```

### 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