

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");
    for(i=0;i<n;i++)
    {
        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 |