S.No: 8	Exp. Name: ***Write a C program to Sort the elements using Bubble Sort Technique***	Date:2023-05-09

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Aim:

Write a program to **sort** the given elements using `bubble sort technique`.

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:

BubbleSortDemo3.c

```
#include<stdio.h>
void main()
{
   int a[20],i,j,n,temp;
   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=0;i<n-1;i++)
    {
       for(j=i+1;j<n;j++)
       {
          if(a[i]>a[j])
          {
             temp=a[i];
             a[i]=a[j];
             a[j]=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 : 3
Enter element for a[0] : 34
Enter element for a[1] : 25
Enter element for a[2] : 28
Before sorting the elements in the array are
Value of a[0] = 34
Value of a[1] = 25
Value of a[2] = 28
After sorting the elements in the array are
Value of a[0] = 25
Value of a[1] = 28
Value of a[2] = 34

Test Case - 2
User Output
Enter value of n : 5
Enter element for a[0] : 1
Enter element for a[1] : 6
Enter element for a[2] : 3
Enter element for a[3] : 8
Enter element for a[4] : 4
Before sorting the elements in the array are
Value of a[0] = 1
Value of a[1] = 6
Value of a[2] = 3
Value of a[3] = 8
Value of a[4] = 4
After sorting the elements in the array are

Value of a[0] = 1
Value of a[1] = 3
Value of a[2] = 4
Value of a[3] = 6
Value of a[4] = 8