Aim:

Write a program to sort the elements in ascending order with insertion sort technique using functions.

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

```
Enter n value :
```

For example, if the user gives the input as:

```
Enter n value : 3
```

Next, the program should print the message on the console as:

```
Enter 3 elements :
```

if the user gives the input as:

```
Enter 3 elements : 45 67 34
```

then the program should print the result as:

```
Elements before sorting : 45 67 34
Elements after sorting : 34 45 67
```

Note: Do use printf() with '\n' at the end of output.

Source Code:

sort.c

```c
#include<stdio.h>
int main()
{
    int a[20],i,j,n,k;
    printf("Enter n value : ");
    scanf("%d",&n);
    printf("Enter %d elements : ",n);
    for(i=0;i<n;i++)
    {
        scanf("%d",&a[i]);
    }
    printf("Elements before sorting : ");
    for(i=0;i<n;i++)
    {
        printf("%d ",a[i]);
    }
    for(i=1;i<n;i++)
    {
        k=a[i];
        j=i-1;
        while(j>=0&&a[j]>k)
        {
            a[j+1]=a[j];
            j=j-1;
        }
```

```
        a[j+1]=k;
    }
    printf("\nElements after sorting : ");
    for(i=0;i<n;i++)
    {
        printf("%d ",a[i]);
    }
    printf("\n");
    return 0;
}
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Enter n value : 3
Enter 3 elements : 45 67 34
Elements before sorting : 45 67 34
Elements after sorting : 34 45 67