

Aim:

Write a program to **sort** the given strings 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 string for a[0] :
Enter string for a[1] :
Enter string for a[2] :

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

Enter string for a[0] : CodeTantra
Enter string for a[1] : Tech
Enter string for a[2] : Solutions

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

Before sorting the strings in the array are
String at a[0] = CodeTantra
String at a[1] = Tech
String at a[2] = Solutions
After sorting the strings in the array are
String at a[0] = CodeTantra
String at a[1] = Solutions
String at a[2] = Tech

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

Source Code:

BubbleSortDemo3.c

```
/*
#include<stdio.h>
#include<string.h>
void main() {
    char a[20][20];
    int i, n, j;
    char temp[20];
    printf("Enter value of n : ");
    scanf("%d", &n);
    printf("Before sorting the strings in the array are\n");
    printf("After sorting the strings in the array are\n");
}
#include <stdio.h>
```

```

#include <string.h>

void main() {
    char a[20][20];
    int i, n, j;
    char temp[20];

    printf("Enter value of n : ");
    scanf("%d", &n);

    // Reading n strings
    for(i = 0; i < n; i++) {
        printf("Enter string for a[%d] : ", i);
        scanf("%s", a[i]);
    }

    // Printing strings before sorting
    printf("Before sorting the strings in the array are\n");
    for(i = 0; i < n; i++) {
        printf("String at a[%d] = %s\n", i, a[i]);
    }

    // Bubble sort algorithm to sort the strings
    for(i = 0; i < n-1; i++) {
        for(j = 0; j < n-i-1; j++) {
            if(strcmp(a[j], a[j+1]) > 0) {
                strcpy(temp, a[j]);
                strcpy(a[j], a[j+1]);
                strcpy(a[j+1], temp);
            }
        }
    }

    // Printing strings after sorting
    printf("After sorting the strings in the array are\n");
    for(i = 0; i < n; i++) {
        printf("String at a[%d] = %s\n", i, a[i]);
    }
}

```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Enter value of n : 3
Enter string for a[0] : CodeTantra
Enter string for a[1] : Tech
Enter string for a[2] : Solutions
Before sorting the strings in the array are
String at a[0] = CodeTantra

String at a[1] = Tech
String at a[2] = Solutions
After sorting the strings in the array are
String at a[0] = CodeTantra
String at a[1] = Solutions
String at a[2] = Tech

