S.No: 1	Exp. Name: ***Design a C program which sorts the strings using array of pointers***	**Date:2023-04-22**

Aim:

Design a C program that sorts the strings using array of pointers.

Sample input output

```
Sample input-output -1:
Enter the number of strings: 2
Enter string 1: Tantra
Enter string 2: Code
Before Sorting
Tantra
Code
After Sorting
Code
Tantra
Sample input-output -2:
Enter the number of strings: 3
Enter string 1: India
Enter string 2: USA
Enter string 3: Japan
Before Sorting
India
USA
Japan
After Sorting
India
Japan
USA
```

Source Code:

stringssort.c

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
void main() {
   char * temp;
   int i, j, diff, num_strings;
   char * strArray[10];
   printf("Enter the number of strings: ");
   scanf("%d",&num_strings);
   if(num_strings>10)
   {
      printf("Sorry,maximum strings allowed is %d. Defaulting.",10);
      num_strings =10;
   }
   for(i=0;i<num_strings;i++)
   {
      printf("Enter string %d: ",i+1);
      strArray[i] =(char *)malloc(10 *sizeof(char));
      scanf("%s",strArray[i]);
   }
   printf("Before Sorting\n");
   for(i=0;i<num_strings;i++)
   {
      printf("%s\n",strArray[i]);
   }
   sort(strArray,num_strings);
   printf("After Sorting\n");
   for(i = 0;i < num_strings ;i++) {
      printf("%s\n",strArray[i]);
   }
}
void sort(char *s[],int num_strings)
{
   char* temp;
   int item,i;
   for(item=0; item < num_strings; item++)
   {
      temp =s[item];
      for(i=item;i > 0 && strcasecmp(s[i-1],temp)>0;i--);
      {
         memmove(&s[i+1],&s[i],(item-i) * sizeof(char *));
         s[i] =temp;
      }
   }
   return 0;
}
```

Execution Results - All test cases have succeeded!

Test Case - 1

User Output

```
Enter the number of strings:  2
Enter string 1:  Tantra
Enter string 2:  Code
Before Sorting
Tantra
Code
After Sorting
Code
Tantra
```

Test Case - 2

User Output

```
Enter the number of strings:  3
Enter string 1:  Dhoni
Enter string 2:  Kohli
Enter string 3:  Rohit
Before Sorting
Dhoni
Kohli
Rohit
```

```
After Sorting
Dhoni
Kohli
Rohit
```