

Institute of Computer Technology
B. Tech Computer Science and Engineering
Subject: DS (2CSE302)

PRACTICAL-8

AIM: - Implement the scenario based on string.

1. Soham is class teacher of standard 3 and he wants to add students first name as per their current seating. After that he wants to set it in alphabetical order. Kindly refer the given scenario and provide appropriate solution in C.

Enter the number of students:6

Enter the name of student-1:Yagnik

Enter the name of student-2:Kashyap

Enter the name of student-3:Kasturi

Enter the name of student-4:Flora

Enter the name of student-5:Abhi

Enter the name of student-6:Nisha

Student List as per alphabetical order:

Abhi

Flora

Kashyap

Kasturi

Nisha

Yagnik

SOLUTION

```
#include<stdio.h>
```

```
#include<string.h>
```

```
int main()
```

```
{
```

```
    char yash[10][20] , temp[20];
```

```
    int n , i , j;
```

```
    printf("\nEnter the number of students: ");
```

```
    scanf("%d",&n);
```

```
    for(i=0 ; i<n ; ++i)
```

```
    {
```

```
        printf("\nEnter the name of student-%d: ", i+1);
```

```
        scanf("%s",&yash[i]);
```

```

    }

    for(i=0 ; i<n ; ++i)
    {
        for(j=0 ; j<n ; ++j)
        {
            if(strcmp(yash[i],yash[j]) < 0)
            {
                strcpy(temp,yash[j]);
                strcpy(yash[j],yash[i]);
                strcpy(yash[i],temp);
            }
        }
    }

    printf("\nStudent List as per alphabetical order: \n");
    for(i=0 ; i<n ; ++i)
    {
        printf("%s\n",yash[i]);
    }
    return 0;
}

```

OUTPUT

```

yash@localhost:~/Desktop/DS/Prac8
File Edit View Search Terminal Help
[yash@localhost Prac8]$ gedit p8A.c
[yash@localhost Prac8]$ gcc p8A.c -o p8A
[yash@localhost Prac8]$ ./p8A

Enter the number of students: 6
Enter the name of student-1: Yagnik
Enter the name of student-2: Kashyap
Enter the name of student-3: Kasturi
Enter the name of student-4: Flora
Enter the name of student-5: Abhi
Enter the name of student-6: Nisha

Student List as per alphabetical order:
Abhi
Flora
Kashyap
Kasturi
Nisha
Yagnik
[yash@localhost Prac8]$

```

2. Jigar wants check for those strings which are having same reverse string as original. For instance:

Case 1:

Enter the String: manali

Reverse String: ilanam

Result: Not Same as original

Case 2:

Enter the String: madam

Reverse String: madam

Result: Same as original

SOLUTION

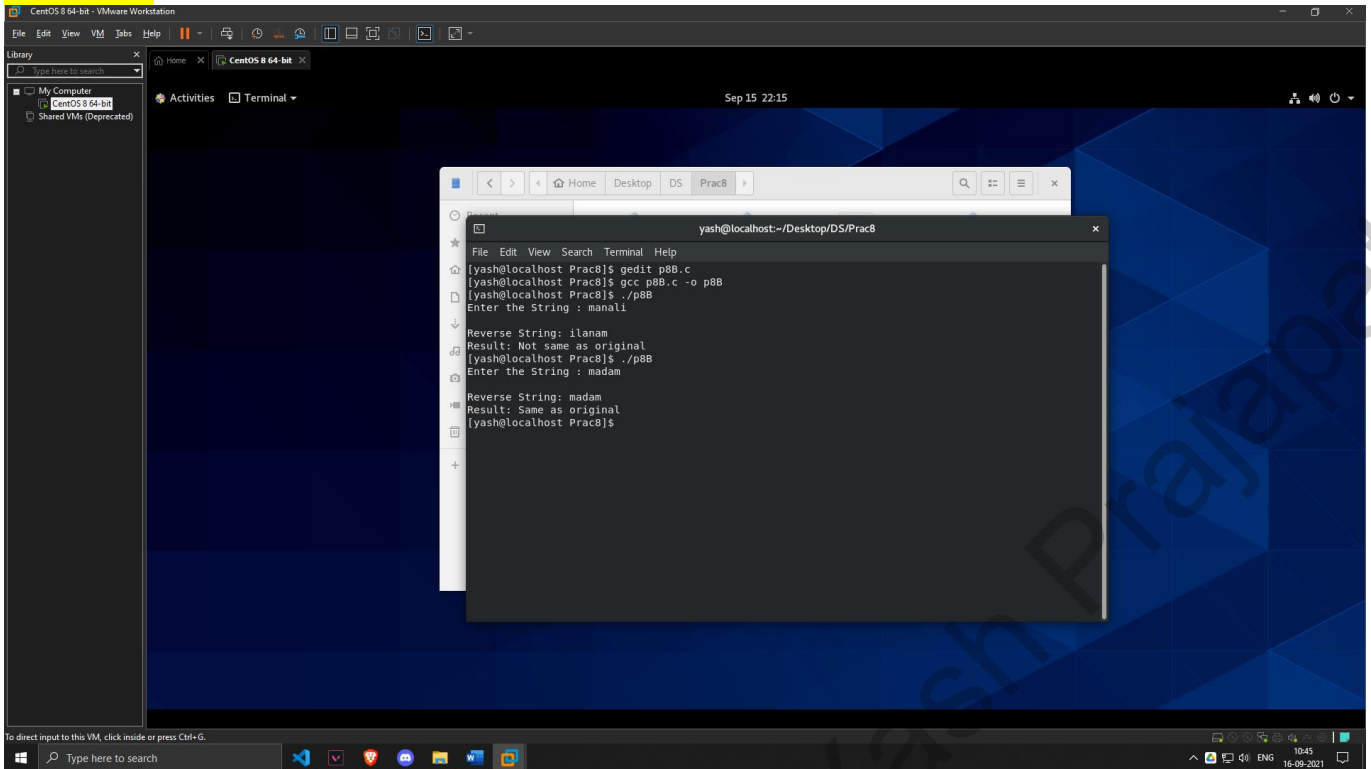
```
#include <stdio.h>
#include <string.h>
int main()
{
    char yash[30], prajapati[30];
    int len=0 ,j=0;
    printf("Enter the String : ");
    scanf("%s",yash);

    len=strlen(yash);

    for(int i=len-1 ; i>=0 ; i--)
    {
        prajapati[j]=yash[i];
        j++;
    }

    printf("\nReverse String: %s",prajapati);

    if (strcmp(yash, prajapati) == 0)
    {
        printf("\nResult: Same as original");
    }
    else
    {
        printf("\nResult: Not same as original");
    }
    return 0;
}
```

OUTPUT**Homework Task Submission:**

1. Develop an algorithm for inserting a new string at given position.

i.e. Enter Main String: Cls

Enter New String: as

Enter location where you want to insert the new string: 2

Final String: Class

SOLUTION

```
#include<stdio.h>
```

```
#include<string.h>
```

```
int main()
```

```
{
```

```
    char Yash1[10],Yash2[10],Yash3[10];
```

```
    int pos,len1,len2,length,temp2,temp=0,temp1;
```

```
    int i=0;
```

```
    printf("\nEnter main string: ");
```

```
    scanf("%s",Yash1);
```

```
    printf("\nEnter new string: ");
```

```
    scanf("%s",Yash2);
```

```
    printf("\nEnter position from where you want to insert new string: ");
```

```
    scanf("%d",&pos);
```

```

len1=strlen(Yash1);
len2=strlen(Yash2);

while(i<=len1)
{
    Yash3[i]=Yash1[i];
    i++;
}
length=len1+len2;
temp1=len2+pos;
for (int i = pos; i < length; i++)
{
    temp2=Yash3[i];
    if (temp<len2)
    {
        Yash1[i]=Yash2[temp];
        temp++;
    }
    Yash1[temp1]=temp2;
    temp1++;
}
printf("%s\n\n",Yash1);
return 0;
}

```

OUTPUT

```

CentOS 8 64-bit - VMware Workstation
File Edit View Search Terminal Help
yash@localhost:~/Desktop/DS/Prac8
[yash@localhost Prac8]$ gedit task1.c
[yash@localhost Prac8]$ gcc task1.c
[yash@localhost Prac8]$ ./a.out
Enter main string: Cls
Enter new string: as
Enter position from where you want to insert new string: 2
Class
[yash@localhost Prac8]$

```

2. Implement a C code to inserting new string in the main string.**i.e. Enter first string: DS****Enter Second string: Class****Final string: DSClass****SOLUTION**

```
#include <stdio.h>
```

```
int main()
{
    char first[20], second[20], yash[20];
    int i = 0, j = 0;

    printf("\nEnter First string: ");
    scanf("%s", first);
    printf("\nEnter Second string: ");
    scanf("%s", second);

    while (first[i] != '\0') {
        yash[j] = first[i];
        i++;
        j++;
    }

    i = 0;
    while (second[i] != '\0') {
        yash[j] = second[i];
        i++;
        j++;
    }
    yash[j] = '\0';

    printf("\nFinal string: %s\n", yash);

    return 0;
}
```

OUTPUT

