SSN COLLEGE OF ENGINEERING (Autonomous)
(Affiliated to Anna University, Chennai)
DEPARTMENT OF CSE
UCS 1211 PROGRAMMING IN C LABORATORY
A4: String Operations in C

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1.Program Name: To implement few string funtions

Program:

```
#include<stdio.h>
int strleng(char[]);
void strcatt(char[],char[]);
void strncpyy(char d[],char s[],int n);
int strchrr(char s[],char c);
void strsett(char s[],char c);
int strcmpii(char s1[],char s2[]);
int isupperr(char c);
char toupperr(char c);
void strcattn(char d[],char s[],int n);
void input(char a[])
{
scanf(" %[^\n]",a);
}
char tolowerr(char ch)
{
   if(ch>='A' && ch<='Z')
      return ch+32;
   else
      return ch;
}
void main()
```

```
{
char c[81],d[81],ch;
int n,flag;
printf("\nmenu:\n1.Concatenate \n2.Copy n character \n3.First occurance of
a character \n4.Setting a string \n5.Comparing 2 strings \n6. Concatenate n
characters ");
printf("\n7.String length \n8.Is Upper \n9.To Lower \n10.To upper \nenter
your choice:");
scanf("%d",&n);
if(n==1)
        {
        printf("\nEnter the string:");
        scanf(" %[^\n]",c);
        printf("\nEnter another string:");
        scanf(" %[^\n]",d);
        strcatt(c,d);
        printf("\nNew string is %s%s",c);
        }
else if(n==2)
        {
        printf("\nEnter the string:");
        scanf(" %[^\n]",c);
        printf("\nEnter another string to be copied:");
        scanf(" %[^\n]",d);
        int c1;
        printf("\nEnter no of char to be copied:");
        scanf("%d",&c1);
        strncpyy(c,d,c1);
        printf("\nNew string is %s",c);
        }
else if(n==3)
        {
        printf("\nEnter the string:");
        input(c);
        printf("\nEnter character to be searched:");
        char k;
        scanf(" %c",&k);
        printf("\n%c is found at %d position",k,strchrr(c,k));
        }
```

```
else if(n==4)
        {
        printf("\nEnter the string:");
        scanf(" %[^\n]",c);
        char k;
        printf("\nEnter character to be written:");
        scanf(" %c",&k);
        strsett(c,k);
        printf("\nNew string is %s",c);
        }
else if(n==5)
        {
        printf("\nEnter the string:");
        scanf(" %[^\n]",c);
        printf("\nEnter another string:");
        scanf(" %[^\n]",d);
        int c3=strcmpii(c,d);
        printf("\nReturned value is %d",c3);
        }
else if(n==6)
        {
        printf("\nEnter the string:");
        scanf(" %[^\n]",c);
        printf("\nEnter another string to be copied:");
        scanf(" %[^\n]",d);
        int c1;
        printf("Enter no of char to be concatenated:");
        scanf("%d",&c1);
        strcattn(c,d,c1);
        printf("\nNew string is %s",c);
        }
else if(n==7)
   {
   printf("\nEnter the string:");
        scanf(" %[^\n]",c);
        printf("\nLength of the string is : %d",strleng(c));
   }
else if(n==8)
   {
```

```
   printf("\nEnter a character:");
         scanf(" %c",&ch);
         flag=isupperr(ch);
         if (flag==0)
       printf("\nThe character is a lower case character");
   else
      printf("\nThe character is an upper case character");
   }
else if(n==10)
   {
   printf("\nEnter a character:");
         scanf(" %c",&ch);
         ch=toupperr(ch);
         printf("The Upper case character equivalent is: %c",ch);
   }
else if(n==9)
   {
   printf("\nEnter a character:");
         scanf(" %c",&ch);
         ch=tolowerr(ch);
         printf("The lower case character equivalent is: %c",ch);
   }
}
int strleng(char a[])
{
int i=0;
for(;a[i]!='\0';i++);
return(i);
}
void strcatt(char s1[],char s2[])
{
int len1=strleng(s1),len2=strleng(s2),i,j;
for(i=len1,j=0;i<=len1+len2&&j<len2;i++,j++)
         s1[i]=s2[j];
s1[i]='\0';
}
void strncpyy(char d[],char s[],int n)
{
int i;
```

```
for(i=0;i<n;i++)
        d[i]=s[i];
d[i]='\0';
}
int strchrr(char s[],char ch)
{
int k=-1,i,len=strleng(s);
for(i=0;i<len;i++)
        if(s[i]==ch)
                {
                k=i;
                break;
                }
return k+1;
}
void strsett(char s[],char c)
{
int len=strleng(s),i;
for(i=0;i<len;i++)
s[i]=c;
}
int isupperr(char c)
{
if(c>='A'&&c<='Z')
        return 1;
else
        return 0;
}
int islowerr(char c)
{
if(c>=97&&c<=122)
        return 1;
else
        return 0;
}
char toupperr(char c)
{
if(islowerr(c)==1)
        return c-32;
```

```
else
        return c;
}
int strcmpii(char s1[],char s2[])
{
 int i;
for(i=0;i<strleng(s1);i++)
        {
        if(toupperr(s1[i])==toupperr(s2[i]))
                continue;
        else if(toupperr(s1[i])<toupperr(s2[i]))
                return -1;
        else if(toupperr(s1[i])>toupperr(s2[i]))
                return 1;
   }
   if(i==strleng(s1)&& i==strleng(s2))
                return 0;
}
void strcattn(char s1[],char s2[],int n)
{
int len1=strleng(s1),len2=strleng(s2),i,j;
for(i=len1,j=0;i<=len1+len2&&j<n;i++,j++)
        s1[i]=s2[j];
s1[i]='\0';
}
```

Output:

```
csea50@jtl-13:~/assignment4$ ./strfun
menu:
1.Concatenate
2.Copy n character
3.First occurance of a character
4.Setting a string
5.Comparing 2 strings
6. Concatenate n characters
7.String length
8.Is Upper
```

9.To Lower
10.To upper
enter your choice:7

Enter the string:Likhitha

Length of the string is : 8

csea50@jtl-13:~/assignment4$ ./strfun
menu:
1.Concatenate
2.Copy n character
3.First occurance of a character
4.Setting a string
5.Comparing 2 strings
6. Concatenate n characters
7.String length
8.Is Upper
9.To Lower
10.To upper
enter your choice:1

Enter the string:hello

Enter another string: good morning

New string is hellogood morning

2.Program Name: To find the last occurrence of a sub-string

Program:

```
#include<stdio.h>
#include<string.h>
void main()
{
char str[81],sub[81],temp[81];
printf("\nenter the string:");
scanf(" %[^\n]",str);
```

```
printf("\nenter the sub string:");
scanf(" %[^\n]",sub);
int pos=-1,j=0,i,k=0;
for(i=0;i<strlen(str);i++)
        {
        k=0;
        for(j=0;j<strlen(sub);j++)
                if(str[i+j]==sub[j])
                        k++;
        if(k==strlen(sub))
                pos=i;
        }
if(pos==-1)
        printf("\nsubstring not found");
else
        printf("substring found at %d position",pos+1);
}
```

Output:

```
csea50@jtl-13:~/assignment4$ ./subocc
enter the string:mississippi
enter the sub string:ssi
substring found at 6 position
```

3. Program Name: To replaces a substring with another string

Program:

```
#include<stdio.h>
#include<string.h>
void main()
{
char str[81],osub[81],nsub[81],temp[81];
printf("\nenter the string:");
scanf(" %[^\n]",str);
printf("\nenter the old sub string:");
scanf(" %[^\n]",osub);
```

```
printf("\nenter the new sub string:");
scanf(" %[^\n]",nsub);
int pos=0,j=0,i,k=0;
for(i=0;i<strlen(str);i++)
        {
        k=0;
        for(j=0;j<strlen(osub);j++)
                if(str[i+j]==osub[j])
                        k++;
        if(k==strlen(osub))
                {
                for(j=0;j<strlen(nsub);j++)
                                temp[pos++]=nsub[j];
                i+=strlen(osub)-1;
                }
        else
                temp[pos++]=str[i];
        }
temp[pos]=0;
strcpy(str,temp);
printf("the altered string is %s",str);
}
```

Output:

```
csea50@jtl-13:~/assignment4$ ./replace
enter the string:hello good morning
enter the old sub string:good
enter the new sub string:happy
the altered string is hello happy morning
```

4. Program Name: To reverse a given string

Program:

```
#include<stdio.h>
#include<string.h>
void main()
{
```

```
char str[81],t;
printf("\nenter the string:");
scanf(" %[^\n]",str);
int i,j;
for(i=0,j=strlen(str)-1;i<=j;i++,j--)
        {
        t=str[i];
        str[i]=str[j];
        str[j]=t;
        }
printf("the reversed string is %s",str);
}
```

Output:

```
csea50@jtl-13:~/assignment4$ ./reverse
enter the string:likhitha
the reversed string is ahtihkil
```