Assignment - 17

String Basics in C Language

1. Write a program to calculate the length of the string. (without using built-in method)

Code

#include<stdio.h>

int main()

{

    char str[100];

int i;

    printf("Enter a String : \n ");

    fgets(str,100,stdin);

    for(i=0; str[i] ; i++); // including \0

    printf("The Length of a string : %d ", i-1); // excluding \0

    return 0;

}

Output

Enter a String :

Dhruv

The Length of a string : 5

1. Write a program to count the occurrence of a given character in a given string.

Code

#include<stdio.h>

int main()

{

    char str[100],c ;

    int i,count=0;

    printf("Enter a String : \n ");

    fgets(str,100,stdin);

    printf("Enter a character : \n ");

    scanf("%c",&c);

    for(i=0; str[i] ; i++)

      if(str[i]==c)

        count++;

    printf("occurrence of a '%c' character in a given string : %d ",c,count);

    return 0;

}

Output

Enter a String :

Rohann Singh

Enter a character :

n

occurrence of a 'n' character in a given string : 3

1. Write a program to count vowels in a given string

Code

#include<stdio.h>

int main()

{

    char str[100],c ;

    int i,count=0;

    printf("Enter a String : \n ");

    fgets(str,100,stdin);

    for(i=0; str[i] ; i++)

      if(str[i]=='a' || str[i]=='e' || str[i]=='i'|| str[i]=='o'|| str[i]=='u'

        || str[i]=='A' || str[i]=='E' || str[i]=='I'|| str[i]=='O'|| str[i]=='U')

        count++;

    printf("Number of vowels in a given string : %d ",count);

    return 0;

}

Output

Enter a String :

abcEeiu

Number of vowels in a given string : 5

1. Write a program to convert a given string into uppercase

Code

#include<stdio.h>

int main()

{

    char str[100];

    int i,count=0;

    printf("Enter a String : \n ");

    fgets(str,100,stdin);

   for(i=0; str[i] ; i++)

    if(str[i]>='a' && str[i]<='z')

        str[i] = str[i]-32;

    printf("%s",str);

    return 0;

}

Output

Enter a String :

dhruv Rastogi

DHRUV RASTOGI

1. Write a program to convert a given string into lowercase

Code

#include<stdio.h>

int main()

{

    char str[100];

    int i,count=0;

    printf("Enter a String : \n ");

    fgets(str,100,stdin);

   for(i=0; str[i] ; i++)

    if(str[i]>='A' && str[i]<='Z')

        str[i] = str[i]+32;

    printf("%s",str);

    return 0;

}

Output

Enter a String :

DHRUVrASTOGI

dhruvrastogi

1. Write a program to reverse a string.

Code

#include<stdio.h>

int main()

{

    char str[100];

      int i,j;

    printf("Enter a String : \n ");

    fgets(str,100,stdin);

    for(i=0; str[i] ; i++);

   for(j=i-2; j>=0 ; j--)

    printf("%c",str[j]); // excluding \0

    return 0;

}

Output

Enter a String :

dhruv

vurhd

7. Write a program in C to count the total number of alphabets, digits and special

characters in a string.

Code

#include<stdio.h>

int main()

{

    char str[100],a=0,d=0,s=0;

    int i,count=0;

    printf("Enter a String : \n ");

    fgets(str,100,stdin);

    for(i=0; str[i] ; i++)

    {

      if(str[i]>= 'A' && str[i]<= 'z')

        a++;

      else if(str[i]>= '0' && str[i]<= '9')

        d++;

      else

        s++;

    }

    printf("Number of Alphabets in a given string : %d \n",a);

    printf("Number of digits in a given string : %d \n",d);

    printf("Number of special Characters in a given string : %d \n",s-1);

    return 0;

}

Output

Enter a String :

dhruv@1797

Number of Alphabets in a given string : 5

Number of digits in a given string : 4

Number of special Characters in a given string : 1

1. Write a program in C to copy one string to another string.

Code

#include<stdio.h>

int main()

{

    char str[100],cpy[100];

    int i,j,count=0;

    printf("Enter a String : \n ");

    fgets(str,100,stdin);

    for(i=0; str[i] ; i++);

    for(j=0 ; j<= i-2;j++)

    cpy[j] = str[j];

    printf("copy of a  given string : \n %s",cpy);

    return 0;

}

Output

Enter a String :

dhruv

copy of a given string :

dhruv

1. Write a C program to sort a string array in ascending order.

Code

#include<stdio.h>

int main()

{

    char str[100];

    int i,j,k,kcount=0;

    printf("Enter a String : \n ");

    fgets(str,100,stdin);

    for(k=0; str[k] ; k++);

    for(i=0 ; i<= k-2;i++)

    {

       for(j=0 ; j<= k-2;j++)

         {

              if(str[i]<str[j])

              {

                str[i] = str[i] + str[j];

                str[j] = str[i] - str[j];

                str[i] = str[i] - str[j];

              }

         }

    }

    printf("sorting of given string alphabetically : \n %s",str);

    return 0;

}

Output

Enter a String :

edcba

sorting of given string alphabetically :

abcde

1. Write a program in C to Find the Frequency of Characters.

Code

#include<stdio.h>

int main()

{

    char str[100],c;

    int i,k,count=0;

    printf("Enter a String : \n ");

    fgets(str,100,stdin);

    printf("Enter a character : \n ");

    scanf("%c",&c);

    for(k=0; str[k] ; k++);

    for(i=0 ; i<= k-2;i++)

    {

       if(str[i]==c)

       count++;

    }

    printf("frequency given element in a string : %d ",count);

    return 0;

}

Output

Enter a String :

aabcad

Enter a character :

a

frequency given element in a string : 3