ASSIGNMENT – 17

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

#include<stdio.h>

int main ()

{

    int cnt = 0;

    char arr [20] = "string";

    for (int i=0; arr[i]; i++)

    {

        cnt++;

    }

    printf ("%d", cnt);

    return 0;

}

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

#include<stdio.h>

int main ()

{

    char arr [30], ch;

    int cnt = 0;

    printf ("Enter any string: ");

    fgets (arr, 30, stdin);

    printf ("Enter a Character: ");

    scanf ("%c", &ch);

    for (int i=0; arr[i]; i++)

    {

        if (arr[i] >= 'A' && arr[i]<= 'Z')

            arr[i] = arr[i] + 32;

    }

    printf ("%s", arr);

    for (int i=0; arr[i]; i++)

    {

        if (arr[i] == ch)

            cnt++;

    }

    printf ("Count = %d", cnt);

    return 0;

}

**3. Write a program to count vowels in a given string.**

#include<stdio.h>

int main ()

{

    char ch [20], cnt = 0;

    printf ("Enter a 1-word string: ");

    fgets (ch, 20, stdin);

    for (int i=0; ch[i]; i++)

    {

        if (ch[i] == 'a'|| ch[i] == 'e'|| ch[i] == 'i'|| ch[i]=='o'|| ch[i] == 'u' || ch[i] == 'A'|| ch[i]=='E'||ch[i]=='I'||ch[i]=='O'||ch[i]=='U')

        cnt++;

    }

    printf ("Count of vowel: %d ", cnt);

    return 0;

}

**4. Write a program to convert a given string into uppercase.**

#include<stdio.h>

int main ()

{

    char ch [30];

    printf ("Enter a string: ");

    fgets (ch, 30, stdin);

    for (int i =0; ch[i]; i++)

    {

        if (ch[i] >= 'a' && ch[i] <= 'z')

            ch[i] = ch[i] - 32;

    }

    printf ("%s", ch);

    return 0;

}

**5. Write a program to convert a given string into lowercase.**

#include<stdio.h>

int main ()

{

    char c [20];

    printf ("Enter a string: ");

    fgets (c, 20, stdin);

    for (int i = 0; c[i]; i++)

    {

        if (c[i]>='A' && c[i] <= 'Z')

        {

            c[i] = c[i] + 32;

        }

    }

    printf ("%s", c);

    return 0;

}

**6. Write a program to reverse a string.**

include<stdio.h>

#include<stdlib.h>

int main ()

{

    char ch [30];

    int len = 0;

    printf ("Enter a string: ");

    fgets (ch, 30, stdin);

    for (int i=0; ch[i]; i++)

    {

        len++;

    }

    for (int i =(len-1); i>=0; i--)

    {

       printf ("%c", ch[i]);

    }

    return 0;

}

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

#include<stdio.h>

int main ()

{

    int coa=0, cod = 0, cosc = 0;

    char c [30];

    printf ("Enter a string: ");

    fgets (c, 30, stdin);

    for (int i=0; c[i]; i++)

    {

        if(c[i]>='a' && c[i]<='z' || c[i]>='A' && c[i]<='Z')

            coa++;

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

            cod++;

        else

            cosc++;

    }

    printf ("Count of alphabets: %d\nCount of digit: %d\nCount of special char: %d", coa, cod, cosc);

    return 0;

}

**8. Write a program in C to copy one string to another string.**

#include<stdio.h>

int main ()

{

    char c [30]; int l =0;

    printf ("Enter a string: ");

    fgets (c, 30, stdin);

    for (int i=0; c[i]; i++)

    {

        l++;

    }

    char arr [l-1];

    for (int i=0; i<l; i++)

    {

        arr[i] = c[i];

    }

    printf ("Copied: %s", arr);

    return 0;

}

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

#include<stdio.h>

void swap (char\*, char\*);

void swap (char\*a, char\*b)

{

    int temp = \*a;

\*a = \*b;

    \*b = temp;

}

int main ()

{

    char ch [30];

    printf ("Enter a string: ");

    fgets (ch, 35, stdin);

    for (int i=0; ch[i]; i++)

    {

        for (int j=i+1; ch[j]; j++)

        {

            if(ch[i] > ch[j])

                swap(&ch[i], &ch[j]);

        }

    }

    printf ("%s", ch);

    return 0;

}

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

#include<stdio.h>

int main ()

{

    char freq [130] = {0};

    char a [30];

    printf ("Enter a String\n");

    fgets (a, 30, stdin);

    for (int i = 0; a[i]; i++)

    {

            freq [a[i]] ++;

    }

    printf ("Frequency of Characters are:\n");

    for (int i=0; i<123; i++)

    {

        if (freq[i]! = 0)

            printf ("%c --> %d\n", i, freq[i]);

    }

    return 0;

}