**Assignment - 17 A Job Ready Bootcamp in C++, DSA and IOT MySirG**

**String Basics in C Language**

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

#include<stdio.h>

#include<string.h>

int main()

{

    char s[10];

    int i,count=0;

    printf("Enter the strings:");

    gets(s);

    for(i=0; s[i]; i++)

    {

        count++;

    }

    printf("Length of the stings:%d",count);

    return 0;

}

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

#include<stdio.h>

#include<string.h>

int main()

{

    char s[20],c;

    int i,count=0;

    printf("Enter the strings:");

    gets(s);

    printf("Enter the count occurrence:");

    scanf("%c",&c);

    for(i=0; i<=strlen(s); i++)

    {

        if(s[i]==c)

        {

            count++;

        }

    }

    printf("Count of the '%c' occurrence %d",c,count);

    return 0;

}

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

#include<stdio.h>

#include<string.h>

int main()

{

    char s[10];

    int i,vowel=0;

    printf("Enter the string:");

    gets(s);

    for(i=0; s[i]; i++)

    {

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

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

           vowel++;

    }

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

    return 0;

}

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

#include<stdio.h>

#include<string.h>

int main()

{

    char s[10];

    printf("Enter the string:");

    gets(s);

    printf("String are Uppercase: %s",strupr(s));

    return 0;

}

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

#include<stdio.h>

#include<string.h>

int main()

{

    char s[10];

    printf("Enter the string:");

    gets(s);

    printf("String are Uppercase: %s",strlwr(s));

    return 0;

}

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

#include<stdio.h>

#include<string.h>

int main()

{

    char s[20];

    int i,j,rev=0;

    printf("Enter the strings:");

    gets(s);

    for(i=0; s[i]; i++)

    {

        rev++;

    }

    printf("Reverse of '%s' strings:\n",s);

    for(j=rev; j>=0; j--)

    {

        printf("%c",s[j]);

    }

    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>

#include <string.h>

int main()

{

    char s[50];

    int i, alpha = 0, digit = 0, special = 0;

    printf("Enter the strings:");

    gets(s);

    for (i = 0; s[i]; i++)

    {

        if (s[i] >= 65 && s[i] <= 90 || s[i] >= 97 && s[i] <= 122)

            alpha++;

        else if (s[i] >= 48 && s[i] <= 57)

            digit++;

        else

            special++;

    }

    printf("Character is Alphabet:%d\n",alpha);

    printf("Character is Digit: %d\n",digit);

    printf("Character is Special :%d",special);

}

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

#include<stdio.h>

#include<string.h>

int main()

{

    char s[10],s1[10];

    printf("Enter the strings:");

    gets(s);

    strcpy(s1,s);

    printf("String are Copy %s",s1);

    return 0;

}

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

#include <stdio.h>

#include <string.h>

int main()

{

    char s[20], temp;

    int i, j, n;

    printf("Enter the strings:");

    scanf("%s", &s);

    n = strlen(s);

    for (i = 0; i < n; i++)

    {

        for (j = 0; j < n; j++)

        {

            if (s[i] < s[j])

            {

                temp = s[i];

                s[i] = s[j];

                s[j] = temp;

            }

        }

    }

    printf("The sorted string is %s", s);

    return 0;

}

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

#include<stdio.h>

#include<string.h>

int main()

{

    char s[20],ch;

    int i,count=0;

    printf("Enter the strings:");

    fgets(s,sizeof(s),stdin);

    printf("Enter a character to find the frequency:");

    scanf("%c",&ch);

    for(i=0; s[i]; i++)

    {

        if(ch==s[i])

        count++;

    }

    printf("Frequency of %c = %d",ch,count);

    return 0;

}