

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

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

```
int main()
```

```
{
```

```
    char str[20];
```

```
    int i = 0;
```

```
    printf("Enter String = ");
```

```
    fgets(str,20,stdin);
```

```
    for(i = 0; (str[i] != 10) && (str[i] != '\0'); ++i);
```

```
    printf("\nString length = %d", i);
```

```
}
```

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

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

```
int main()
```

```
{
```

```
    char str[20];
```

```
    char store[20];
```

```
    int count = 0;
```

```
    printf("Enter String = ");
```

```
    fgets(str,20,stdin);
```

```
    for(int i=0; (str[i] != 10) && (str[i] != '\0'); i++)
```

```
    {
```

```
        if(str[i] != store[i])
```

```
        {
```

```
            store[i] = str[i];
```

```
            count = count + 1;
```

```
        for(int j=i+1; (str[j] != 10) && (str[j] != '\0'); j++)
```

```
        {
```

```
            if(str[i] == str[j])
```

```
{  
    store[j] = str[j];  
    count = count + 1;  
}  
}  
printf("%c = %d\n", str[i], count);  
count = 0;  
}  
}  
}
```

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

```
#include<stdio.h>

#include<string.h>

int main()
{
    char str[200];
    int count = 0;

    printf("Enter String = ");
    fgets(str,200,stdin);

    for(int i = 0; (str[i] != '\0'); ++i)
    {
        if(str[i]=='a' || str[i]=='A')
            count = count + 1;
        else if(str[i]=='e' || str[i]=='E')
            count = count + 1;
        else if(str[i]=='i' || str[i]=='I')
            count = count + 1;
        else if(str[i]=='o' || str[i]=='O')
            count = count + 1;
        else if(str[i]=='u' || str[i]=='U')
```

```
        count = count + 1;
    }
    printf("\nTotal vowels = %d", count);
}
```

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

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

```
int main()
```

```
{
```

```
    char str[200];
```

```
    int count = 0;
```

```
    printf("Enter String = ");
```

```
    fgets(str,200,stdin);
```

```
    for(int i=0; (str[i] != 10) && (str[i] != '\0'); i++)
```

```
        if((str[i] >= 97) && (str[i] <= 122))
```

```
            str[i] = str[i] - 32 ;
```

```
    printf("\n%s",str);
```

```
}
```

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

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

```
int main()
```

```
{
```

```
    char str[200];
```

```
    char rev[200];
```

```
    printf("Enter String = ");
```

```
    fgets(str,200,stdin);
```

```
    for(int i=0; (str[i] != 10) && (str[i] != '\0'); i++)
```

```
        if((str[i] >= 65) && (str[i] <= 90))
```

```
            str[i] = str[i] + 32 ;
```

```
    printf("\n%s",str);
```

```
}
```

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

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

```
int main()
```

```
{
```

```
    char str[200];
```

```
    char rev[200];
```

```
    char demo[]="abc";
```

```
    int i=0, j=0;
```

```
    printf("Enter String = ");
```

```
    fgets(str,200,stdin);
```

```
    for(;(str[i] != 10) && (str[i] != '\0'); i++);
```

```
    while(i>=0)
```

```
    {
```

```
        rev[j] = str[i];
```

```
        j = j + 1;
```

```
        i = i - 1;
```

```
    }
```



```
printf("%s",rev);  
}
```

// Q.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()
```

```
{
```

```
    char str[200];
```

```
    int alph = 0, dgt = 0, spcl = 0, i = 0;
```

```
    printf("Enter String = ");
```

```
    fgets(str,200,stdin);
```

```
    for(;(str[i] != 10) && (str[i] != '\0'); i++)
```

```
    {
```

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

```
        {
```

```
            alph = alph + 1;
```

```
        }
```

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

```
        {
```

```
            dgt = dgt + 1;
```

```
        }
```

```
        else if((str[i] >= 33 && str[i] <= 47) || (str[i] >= 58 && str[i] <=
64) || (str[i] >= 91 && str[i] <= 96) || (str[i] >= 123 && str[i] <= 126))
        {
            spcl = spcl + 1;
        }
    }
```

```
printf("alphabets = %d\n", alph);
```

```
printf("digits = %d\n", dgt);
```

```
printf("special character = %d\n", spcl);
```

```
}
```

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

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

```
int main()
```

```
{
```

```
    char str1[200];
```

```
    char str2[200];
```

```
    int i = 0;
```

```
    printf("Enter String 1 = ");
```

```
    fgets(str1,200,stdin);
```

```
    printf("Enter String 2 = ");
```

```
    fgets(str2,200,stdin);
```

```
    for(;(str1[i] != 10) && (str1[i] != '\0'); i++);
```

```
    for(int j = 0;(str2[j] != 10) && (str2[j] != '\0'); j++, i++)
```

```
    {
```

```
        str1[i] = str2[j];
```

```
    }
```

```
    printf("\nfinal string = %s", str1); }
```

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

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

```
int main()
```

```
{
```

```
    char str[200];
```

```
    printf("Enter String = ");
```

```
    fgets(str,200,stdin);
```

```
    for(int i = 0; (str[i] != 10) && (str[i] != '\0'); i++)
```

```
    {
```

```
        for(int j = i + 1; (str[j] != 10) && (str[j] != '\0'); j++)
```

```
        {
```

```
            if(str[i] > str[j])
```

```
            {
```

```
                char tmp = str[j];
```

```
                str[j] = str[i];
```

```
                str[i] = tmp;
```

```
            }
```

```
}
```

```
}
```

```
printf("%s",str);
```

```
}
```

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

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

```
int main()
```

```
{
```

```
    char str[200], arr[150] = {0};
```

```
    printf("Enter String = ");
```

```
    fgets(str,200,stdin);
```

```
    for(int i = 0; (str[i] != 10) && (str[i] != '\0'); i++)
```

```
    {
```

```
        arr[str[i]]++;
```

```
    }
```

```
    for(int i = 0; i<150; i++)
```

```
    {
```

```
        if(arr[i] != 0)
```

```
        {
```

```
            printf("%c = %d\n", i, arr[i]);
```

```
        }
```

```
    }
```

```
}
```