

ASSIGNMENT-7

[27-11-2025]

1)Program to count number of vowels , consonants ,digits and white spaces?

```
#include <stdio.h>

int main()
{
    char str[200];

    int i, vowels = 0, consonants = 0, digits = 0, spaces = 0;

    printf("Enter a string: ");
    fgets(str, sizeof(str), stdin);
    for (i = 0; str[i] != '\0'; i++)
    {
        char ch = str[i];

        // Check for vowels
        if (ch=='a' || ch=='e' || ch=='i' || ch=='o' || ch=='u' ||
            ch=='A' || ch=='E' || ch=='I' || ch=='O' || ch=='U') {
            vowels++;
        }

        // Check for consonants (alphabet but not vowel)
        else if ((ch >= 'a' && ch <= 'z') || (ch >= 'A' && ch <= 'Z'))
        {
            consonants++;
        }

        // Check for digits
        else if (ch >= '0' && ch <= '9')
        {
            digits++;
        }

        // Check for white spaces
```

```

        else if (ch == ' ') {
            spaces++;
        }
    }

    printf("Vowels: %d\n", vowels);
    printf("Consonants: %d\n", consonants);
    printf("Digits: %d\n", digits);
    printf("White spaces: %d\n", spaces);

    return 0;
}

```

2) Describe about different functions in strings ?

ANS: String Functions in C (with Description)

1 strlen()

Purpose:

Returns the length of a string (number of characters excluding \0).

Example:

```
strlen("hello"); // Output: 5
```

2 strcpy()

Purpose:

Copies one string into another.

Example:

```
strcpy(dest, src);
```

3 strncpy()

Purpose:

Copies n characters from source string to destination.

Example:

```
strncpy(dest, src, 3); // copies first 3 chars
```

4 strcat()

Purpose:

Joins (concatenates) two strings.

Example:

```
strcat(str1, str2); // str1 = str1 + str2
```

5 strncat()

Purpose:

Concatenates n characters of string2 to string1.

6 strcmp()

Purpose:

Compares two strings lexicographically.

- Returns 0 if both strings are equal
 - Returns positive if str1 > str2
 - Returns negative if str1 < str2
-

7 strncmp()

Purpose:

Compares first n characters of two strings.

8 strlwr() *(not standard, works in Turbo C / Windows compilers)*

Purpose:

Converts all characters of a string to lowercase.

9strupr() *(not standard)*

Purpose:

Converts string to uppercase.

10 strchr()

Purpose:

Finds the first occurrence of a character in a string.

Example:

```
strchr("apple", 'p'); // points to first 'p'
```

11 `strrchr()`

Purpose:

Finds the last occurrence of a character.

12 `strstr()`

Purpose:

Finds the first occurrence of a substring inside another string.

Example:

```
strstr("Hello World", "World");
```

13 `strdup()`

Purpose:

Creates a duplicate copy of a string using dynamic memory.

14 `strtok()`

Purpose:

Used to split a string into tokens using a delimiter.

Example:

```
strtok(str, " ,.-");
```