C PROGRAMING / LINUX [DASL-100]

WEEK 4 [Section 8]

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➤ **C program to count the number of vowels, consonants and so on**

➤This program counts the number of vowels, consonants, digits and white-spaces in a string which is entered by the user.

```
Enter a line of string: adfslkj34 341kj343 341k
Vowels: 1
Consonants: 11
Digits: 9
White spaces: 2
```

```c
#include <stdio.h>

int main()
{
    char line[150];
    int i, vowels, consonants, digits, spaces;

    vowels =  consonants = digits = spaces = 0;

    printf("Enter a line of string: ");
    scanf("%[^\n]", line);

    for(i=0; line[i]!='\0'; ++i)
    {
        if(line[i]=='a' || line[i]=='e' || line[i]=='i' ||
            line[i]=='o' || line[i]=='u' || line[i]=='A' ||
            line[i]=='E' || line[i]=='I' || line[i]=='O' ||
            line[i]=='U')
        {
            ++vowels;
        }
        else if((line[i]>='a'&& line[i]<='z') || (line[i]>='A'&& line[i]<='Z'))
        {
            ++consonants;
        }
        else if(line[i]>='0' && line[i]<='9')
        {
            ++digits;
        }
        else if (line[i]==' ')
        {
            ++spaces;
        }
    }
    printf("Vowels: %d",vowels);
    printf("\nConsonants: %d",consonants);
    printf("\nDigits: %d",digits);
    printf("\nWhite spaces: %d", spaces);

    return 0;
}
```

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> **C Program to Find the Length of a String**

> In this article, you'll learn to find the length of a string without using strlen() function.

```c
#include <stdio.h>
int main()
{
    char s[1000], i;

    printf("Enter a string: ");
    scanf("%s", s);

    for(i = 0; s[i] != '\0'; ++i);

    printf("Length of string: %d", i);
    return 0;
}
```

```
Enter a string: Programiz
Length of string: 9
```

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➢ C Program to Concatenate Two Strings

➢In this article, you'll learn to easily concatenate two strings without using standard library function strcat().

➢You can concatenate two strings easily using standard library function strcat() but, this program concatenates two strings manually without using strcat() function.

```
Enter first string: lol
Enter second string: :)
After concatenation: lol:)
```

```c
#include <stdio.h>
int main()
{
    char s1[100], s2[100], i, j;

    printf("Enter first string: ");
    scanf("%s", s1);

    printf("Enter second string: ");
    scanf("%s", s2);

    // calculate the length of string s1
    // and store it in i
    for(i = 0; s1[i] != '\0'; ++i);

    for(j = 0; s2[j] != '\0'; ++j, ++i)
    {
        s1[i] = s2[j];
    }

    s1[i] = '\0';
    printf("After concatenation: %s", s1);

    return 0;
}
```

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- ➤ **C Programming Structure**
  - ➤ Structure is a collection of variables of different types under a single name.

➤ **Syntax of structure**

```
struct structure_name
{
    data_type member1;
    data_type member2;
    .
    .
    data_type memeber;
};
```

➤ **Declaration**

```
struct person
{
    char name[50];
    int citNo;
    float salary;
};
```

➤ **Full Example**

```
struct person
{
    char name[50];
    int citNo;
    float salary;
};

int main()
{
    struct person person1, person2, person3[20];
    return 0;
}
```

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➢ **To do List**

➢Create a program to add two distances($x1$ and $x2$) entered by user. The user must also indicate the time along side with the distances($t1$ and $t2$). Finally present the velocity for ($v1$ and $v2$). Measurement of: distance should be in [m] or [foot]; time in sec and speed on [m/s] or [foot/sec].(20hours QUIZ)

➢Research and write a brief summary on "Structure" applied to C and C++ Language [Make sure to give two examples] (DUE NEXT SECTION)

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