Data input in C language

- In C language you can allow the user to input data
- Once the user inputs a value through the keyboard it will be stored in a variable
- A variable is a temperory memory location, that can be used to store any kind of data.
- In programming before you use ~~the~~ a variable, you must declare them with data types

Ex : int no1 , no2 , total ;

↓

data type

variables

(Q) Write a C program to input two numbers and display the total.

```c
#include <stdio.h>
int main ()
{
    // variable declaration
    int no1, no2, total;
    // user input
    printf ("Enter First Number: ");
    scanf (" %d", &no1);
    printf (" Enter Second Number: ");
    scanf (" %d", &no2);
    // calculate the total
    total = (no1 + no2);
    // display the total
    printf (" The Total is %d \n", total);
}
```

Q.) Write a program to input birth year and display the age.

```c
#include <stdio.h>
int main ()
{
    int yr, age
    printf (" Enter your birth year ");
    scanf (" %d", &yr );
    age = 2018 - yr ;
    printf (" Your age is %d \n", age );
}
```

Comments

There are two types of comments in C language
   ① Single Line comment
      ex : // .... comment

   ② Multi Line comment
      ex : /*
         . . . . .
         . . . . comments
         . . .
         */

The comments ~~involved~~ ignored by the compiler, during the compilation time, it is used as a reference to the programmer

Data types

In C language we can find different data types. Followings are some of the commonly used data types;

$%d \rightarrow$ int   -   Integers
$%c \rightarrow$ char   -   single characters
$%f \rightarrow$ float   -   decimal values
      double - decimal values (range is higher than float)
$%s$ char name - group of characters

(Q) Write a program to input two decimal values and display the average value.

```
#include <stdio.h>
int main
{
        float a, b, avg;
        printf (" Enter First Number");
        scanf ("%.f", &a);
```

```c
        printf ("Enter Second Number ");
        scanf ("%.f", &b);
        avg = (a+b)/2;
        printf ("The Average is = %.2f /n", avg);
}
```

Single Character Input and Output (only display one character)

```c
{
        char ch;
        printf ("Enter a character");
        scanf ("%.c", &ch);


        printf ("you entered character %.c", ch);
}
```

String input in C language (displays group of characters)

```c
{
        char name [30];
        printf ("Enter your name");
        scanf ("%.s", &name);
        printf ("Hi, %.s", name);
}
```

(Q) Write a program to input a student addmission number, name, marks of two subjects and display the following output.

Admission number =

Name =

Average mark =

```
{
        int addno ;
        char name [30] ;
        float m1 , m2 , avg ;
        printf ( "Admission number = " ) ;
        scanf ( "%d ", &addno ) ;
        printf ( "Name = " ) ;
        scanf ( "%.c" , &name ) ;


#include <stdio.h>
int main()
{
        int admno ;
        float m1, m2, avg ;
        char name [20] ;
        printf ( "Enter addmission number: " ) ;
        scanf ( "%d", &admno ) ;
        printf ( "Enter student name : " ) ;
        scanf ( "%.s", &name ) ;
        printf ( "Enter Module 1 mark:" ) ;
        scanf ( "%.f ", &m1 ) ;
        printf ( "Enter Module 2 marks : " ) ;
        scanf ( "%.f", &m2 ) ;
        avg = (m1 + m2)/2 ;
        printf ( "Addmission number = %d \n", admno ) ;
        printf ( " Student name = %.s \n", name ) ;
        printf ( "Average = %.2f \n", avg ) ;
}
```

Q.) Write a program to input student name, birth year, and display student name with age

```c
char name [30];
int byear, age;
printf ("Enter Your name : ");
scanf ("%s",&name);
printf ("Enter Birth year : ");
scanf ("%d", &byear);
age = 2018 - byear;
printf ("Hi! , %s . You are %d years old ", name, age);
```