CONSTANT IN C LANGUAGE

Constants

This tutorial will cover **Constants** in C. Constants refers to the fixed values that do not change during the execution of a program. A "constant" is a number, character, or character string that can be used as a value in a program. Use constants to represent floating-point, integer, enumeration, or character values that cannot be modified. C supports several types of constants that I am discussing in this article.

There may be a situation in programming that the value of certain variables to remain constant during execution of a program. In doing so we can use a qualifier const at the time of initialization. For example :

```
1. const float pie =3.147;
2. const int radius =4;
3. const char c = 'A';
4. const char name[] = "Samina Kauser";
```

In C constant can also be used using preprocessor directive For example :

```
1.  #define FIRST_NUMBER 1
```

Note

1. const is a new data type qualifier in C defined by ANSI

Types of constant in C Language

1.   Primary Constant

Primary Constant have following sub categories
- Integer Constant
- Real constant
- Character constant

2.   Secondary Constant

Secondary Constant have following sub categories
- Array
- Pointer Structure

- ○ Union
- ○ Enum

Using Constant In Our Program

(a) Constant definitions typically follow the #include directives at the top of C source code:

```
1. #include<stdio.h>
2. #define SPEEDLIMIT 55
3. #define RATE 15
4. #define FIRST_TICKET 85
5. #define SECOND_TICKET 95
6. #define THIRD_TICKET 100
7. int main()
8.  {
9.  int total,fine,speeding; puts("Speeding Tickets\n");
10. /* first ticket */
11. speeding = FIRST_TICKET - SPEEDLIMIT;
12.  fine = speeding * RATE;
13.  total = total + fine;
14.  printf("For     going     %d     in     a     %d     zone:
    $%d\n",FIRST_TICKET,SPEEDLIMIT,fine);
15. /* second ticket */
16.  speeding = SECOND_TICKET - SPEEDLIMIT;
17.  fine = speeding * RATE;
18.  total = total + fine;
19.  printf("For     going     %d     in     a     %d     zone:
    $%d\n",SECOND_TICKET,SPEEDLIMIT,fine);
20. /* third ticket */
21. speeding = THIRD_TICKET - SPEEDLIMIT;
22.  fine = speeding * RATE;
23.  total = total + fine;
24.  printf("For     going     %d     in     a     %d     zone:
    $%d\n",THIRD_TICKET,SPEEDLIMIT,fine);
25. /* Display total */
26.  printf("\nTotal in fines: $%d\n",total);
```

```
27.    return(0);
28.    }
```

(b) Constant using const keyword C programming:

When declaring a const variable, it is possible to put const either before or after the type: that is, both

```
1.    int const a = 15;
```

Or

```
1.    const int x = 15;
```

Following is a simple example

```
1.    main()
2. {
3.    const float pi = 3.14;
4.    float area_of_circle;
5.    area_of_circle = pi*r*r;
6.    printf("Area of circle is :%f",area_of_circle);
7.    }
```

Source : http://www.dotnet-tricks.com/Tutorial/c/2UY7251012-Constant-in-C-language.html