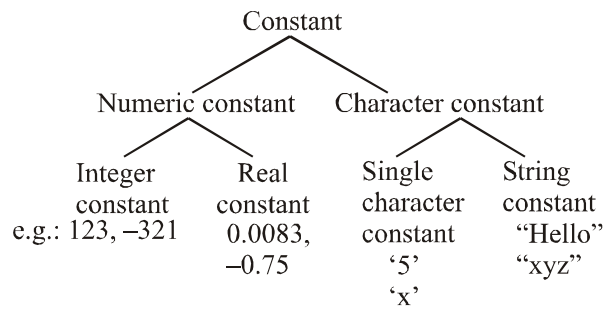


3. **Constants:** Constants in C refer to fixed values that do not change during the execution of a program.



Variables: A variables is a data name that may be used to store a data value.

A variable name can be chosen by the programme in a meaningful way so as to reflect its function or nature in the program.

Some valid variable names are mark, value, roll_no, sum etc.

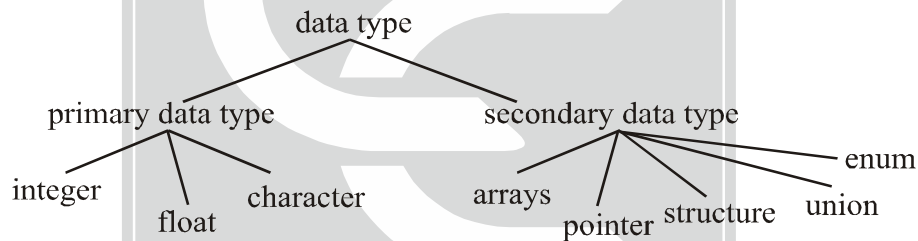
Invalid variable name:

123, (area), %

Data Types:

C consists of two major categories of data type:

- (a) Primary data type
- (d) Secondary data type.



Size and Range of Primary Data Type:

S.no.	Type	Size(bits)	Range
1.	int	16	-32768 to 32767
2.	char	8	-128 to 127
3.	Float	32	3.4 e -38 to 3.4e + 38

Declaration of variables:

Primary type declaration:

```
data-type v1, v2, ..... vn;
```

v₁, v₂, v_n are the names of variables.

For example

```
int count;
int numbers, total;
double ratio;
```

Storage Classes: There are four storage classes in C language.

1. **auto:** Local variable are known only to the function in which it is declared. Default is auto.
2. **static:** Local variables are the variables which exists and retains its value even after the control is transfered to the calling function.
3. **extern:** Global variable known to all function in the file.
4. **register:** Local variables are the variables which are stored in the register.

Static and extern variables are automatically initialized to zero. Automatic (Auto) variable contains undefined value (known as garbage) unless they are initialized explicitly.

Reading Data from keyword:

To input data through keyboard using the scanf function. It is a general input function available in C.

General format of scanf.

```
scanf("control string", &v1, &v2 ..... &vn);
```

```
scanf("%d", &number);
```

%d = Specify data type

& = Address

Example:

```
#include<stdio.h>
#include<conio.h>
void main ()
{
    int x,y, sum;
    printf("Enter the vau of x:");
    scanf("%d", &x);
    printf("Enter the value of y:");
    scanf("%d", &y);
    sum = x+ y;
    printf("%d\n: %d", sum);
    getch();
}
```

Operators:

C operators can be classified into number of categories. They include:

- (a) Arithmetic Operators
- (b) Relational operators
- (c) Logical operators
- (d) Assignment operators.
- (e) Increment and decrement operators
- (f) Conditional operators.
- (g) Bitwise operators.
- (h) Special operators.

Arithmetic Operators:

Operator	Meaning
+	Addition
-	Subtraction
*	Mutliplication
/	Division
%	Modulo

For example:

```
a = 14,      b = 4
a-b = 10
a+b = 18
a*b = 56
a/b = 3
a%b = 2
```