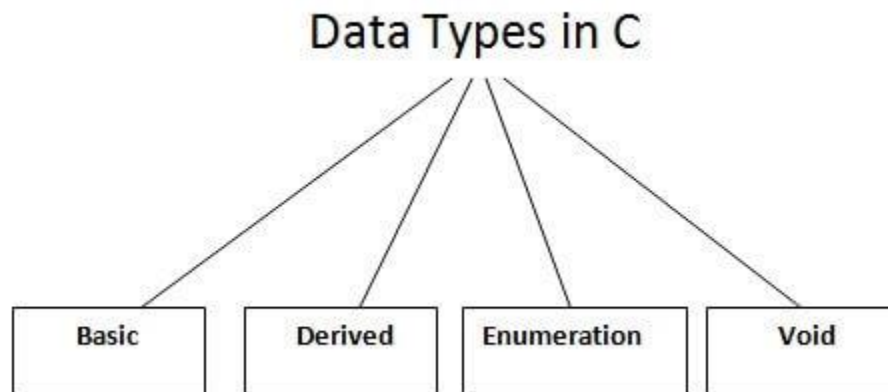


# Data Types in C :-

A data type specifies the type of data that a variable can store such as integer, floating, character, etc.



There are the following data types in C language.

| Types                 | Data Types                       |
|-----------------------|----------------------------------|
| Basic Data Type       | int, char, float, double         |
| Derived Data Type     | array, pointer, structure, union |
| Enumeration Data Type | enum                             |
| Void Data Type        | void                             |

## Basic Data Types

The basic data types are integer-based and floating-point based. C language supports both signed and unsigned literals.

The memory size of the basic data types may change according to 32 or 64-bit operating system.

Let's see the basic data types. Its size is given **according to 32-bit architecture**.

| Data Types | Memory Size | Range |
|------------|-------------|-------|
|------------|-------------|-------|

|                    |         |                                 |
|--------------------|---------|---------------------------------|
| <b>char</b>        | 1 byte  | –128 to 127                     |
| signed char        | 1 byte  | –128 to 127                     |
| unsigned char      | 1 byte  | 0 to 255                        |
| <b>short</b>       | 2 byte  | –32,768 to 32,767               |
| signed short       | 2 byte  | –32,768 to 32,767               |
| unsigned short     | 2 byte  | 0 to 65,535                     |
| <b>int</b>         | 2 byte  | –32,768 to 32,767               |
| signed int         | 2 byte  | –32,768 to 32,767               |
| unsigned int       | 2 byte  | 0 to 65,535                     |
| <b>short int</b>   | 2 byte  | –32,768 to 32,767               |
| signed short int   | 2 byte  | –32,768 to 32,767               |
| unsigned short int | 2 byte  | 0 to 65,535                     |
| <b>long int</b>    | 4 byte  | –2,147,483,648 to 2,147,483,647 |
| signed long int    | 4 byte  | –2,147,483,648 to 2,147,483,647 |
| unsigned long int  | 4 byte  | 0 to 4,294,967,295              |
| <b>float</b>       | 4 byte  |                                 |
| <b>double</b>      | 8 byte  |                                 |
| <b>long double</b> | 10 byte |                                 |