DATA TYPES

To store anything in our computer, we should have to allocate the memory. This memory allocation is depended on the data type we are using.

Data type determines the properties such as

1. No of bytes
2. Range
3. Type of value

In C language we are having 3 **basic** data types

1. Int – To store non-decimal numbers
2. Float – To store decimal numbers
3. Char – To stores alphabets, numbers and special char

Total data types are divided into 3 types.

1. Primitive data types
2. Derived data types
3. User defined data types

PRIMITIVE DATA TYPES:

These are the regular data types we are using in our c programs.

Data type	Bytes	Conversion	Storage Range

		Character / format specifier	
int / signed int / short int	2	%d	-32768 to +32767
unsigned int	2	%u	0 to 65535
long int	4	%ld	-2147483648 to 2147483647
unsigned long int	4	%lu	0 to 4294967295
float	4	%f	$3.4 * 10^{-38}$ to $3.4 * 10^{+38}$
double	8	%lf	$1.7 * 10^{-308}$ to $1.7 * 10^{+308}$
long double	10	%Lf	$3.4 * 10^{-4932}$ to $1.1*10^{+4932}$
char	1	%c	1 character Signed char [-128 to +127] Unsigned char [0 to 255]
char[10] (STRING)	10	%s	9 char + 1 null char
void [empty data type]			nothing

DERIVED DATA TYPES:

They are derived from primitive data types.

1. Array
2. Pointer
3. Function

USER DEFINED DATA TYPES:

These are the data types created by the user.

1. structure
2. union
3. enum