7 Data types

There are four fundamental datatypes
int, char, float, double.

- char is used to store any single character
- int is used to store integer value
- float is used for storing single precision floating point number
- double is used for storing double precision floating point number.

*. Type qualifiers
- Size qualifiers - short, long
- Sign qualifiers - signed, unsigned

(bytes).

Data type	Qualifiers	Size	range
char	char or signed char	1	-128 to 127
	unsigned char	1	0 to 255
int	int or signed int	2	-32768 to 32767
	unsigned int	2	0 to 65535
	short int or signed short int	1	-128 to 127
	unsigned short int	1	0 to 255
	long int or signed long int	4	-2147483648 to 2147483647
	unsigned long int	4	0 to 4294967295
float	float	4	3.4E-38 to 3.4E+38
double	double	8	1.7E-308 to 1.7E+308
	long double	10	3.4E-4932 to 1.1E-4932

1.1E-4932

Constant

Value that can't be changed during execution of the program.

Numeric character String

↳ Integer and Real constant

↳ Decimal 0,1,2,3,4,5,6,7,8,9 base 10

octal 0,1,2,3,4,5,6,7 base 8

Hexadecimal

0,1....,8,9,A,B,C,D, a,b,c,d,e,f base 16

→ Integer Constant

Example

decimal 0, 123, 3705, 23

(0) octal 0 . 05 , 077 , 0892

(0X) Hexadecimal

x or X 0x , 0X23 , 0x515 , 0X F15B

0xab 0Xa1C

→ Real (Floating point) Constant

0.5 , 5.3 , 0.007 , 7.6789

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→ Character Constant

Single character enclosed within Single quotes.

'9' 'D' '$' ' ' '#'

Space

→ String Constant

enclosed within double quotes (" ")

At the end of string \0 is placed by compiler.

" Kumar "

" 593 "

" 8 "

" "

" A "

→ Symbolic Constant

eg. PI 3.14159265

define name value

define PI 3.14159265

Capital

It can be numeric, character, string