

C Language

Type modifiers



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Agenda

- ① Type modifiers in C
- ② Usage rules
- ③ Modifiers with int
- ④ Modifiers with char
- ⑤ Modifiers with double

Type modifiers

short

signed

long

unsigned

Usage Rules

- signed and unsigned can be used with int and char but not with float and double
- short can be used with int only.
- long can be used with int and double only.

signed/unsigned modifiers with int short/long

int 4 bytes -2,147,483,647 to 2,147,483,647

signed int 4 bytes

unsigned int 4 bytes 0 to 4,294,967,295

short 2 bytes -32768 to 32767

short int 2 bytes

signed short int 2 bytes

unsigned short int 2 bytes 0 to 65535

long 8 bytes -9,223,372,036,854,775,808

long int 8 bytes to 9,223,372,036,854,775,807

signed long int 8 bytes

unsigned long int 8 bytes 0 to 18,446,744,073,709,551,615

Modifiers with char

char	1 byte	-128 to 127
Signed char	1 byte	-128 to 127
unsigned char	1 byte	0 to 255

Modifiers with double

float

4 bytes

1.2×10^{-38} to 3.4×10^{38}

double

8 bytes

2.3×10^{-308} to 1.7×10^{308}

long double

10 bytes

3.4×10^{-4932} to 1.1×10^{4932}