Arithmetic Operators

Arithmetic Addition

Arithmetic Subtraction

Arithmetic Mult

Arithmetic Div

$$+$$
$$-$$
$$*$$
$$/$$
$$\boxed{\%}$$ Modulo Div
or
Mod

Maths

$2 \cdot 3$ ✓
$2(a+b)$ ✓

$\underline{\underline{C}}$

$2 \cdot 3$ X
2×3
$2(a+b)$ X
$2 *(a+b)$ ✓

---

int a = 10, b = 3;

a + b —> 13

a - b —> 7

a * b —> 30

| a / b —> 3 |

a % b —> 1

why 3 and not 3.3?

Because in C lang there is a special rule for <u>integer division</u>. And the rule is that int/int is always an int

① int a;

a = 10/4;

②

② float a;

a = 10/4.

2.0000000

③ int a;

a = 10/4.0;

②

④ float a;

a = 10/4.0;

2.5000000

Two Special Rules

① 1 ./ 2 ⟶ 1

7 ./. 10 ⟶ 7

② 1 / 2 ⟶ 0

7 / 10 ⟶ 0

$7 ./. 5 \longrightarrow 2$

$7 / 5 \longrightarrow 1$

$5 ./. 7 \longrightarrow 5$

$5 / 7 \longrightarrow 0$

$6 ./. 5 \longrightarrow 1$

$5 / 6 \longrightarrow 0$

$1.0 ./. 2.0 \quad X$

$1.0 ./. 2 \quad X$

$1 ./. 2.0 \quad X$

```
char ch1 = 'A', ch2 = 'B';

int   x, y;                    |for comprih

x = ch1 ./.ch2;    x = 65./.66;

y = ch2 ./.ch1;    x = 66./.66;

|printf(" ./.d ./.d", x,y);
             65   1
```

5 ./. 2 ⟶ 1

- 5 ./. 2 ⟶ -1

5 ./. -2 ⟶ 1

- 5 ./. -2 ⟶ -1

How do you calc power in C?

OR

How do you calc 2^3 in C?

Wrong	Correct
① $2 \wedge 3$ X	✓① $a = 2 * 2 * 2;$
	OR
② $2 \$ 3$ X	✓② $a = pow(2, 3);$
③ $2 ** 3$ X	
④ 2^3 X	

Mathematics In C

Operators

Directly built into the compiler
$\begin{cases} + \\ - \\ / \\ * \\ ./. \end{cases}$

Function

$\left.\begin{array}{l} pow() \\ sqrt() \\ sin() \\ \vdots \\ \vdots \end{array}\right\}$ math.h