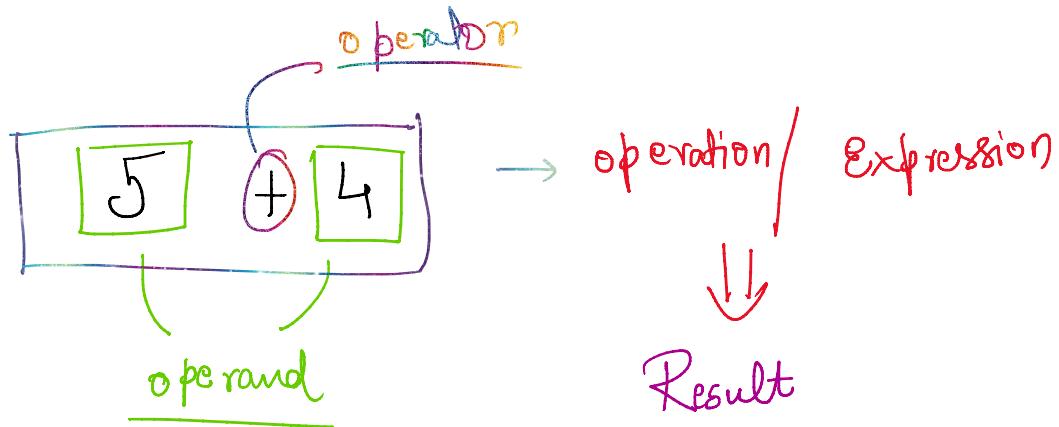


## OPERATORS

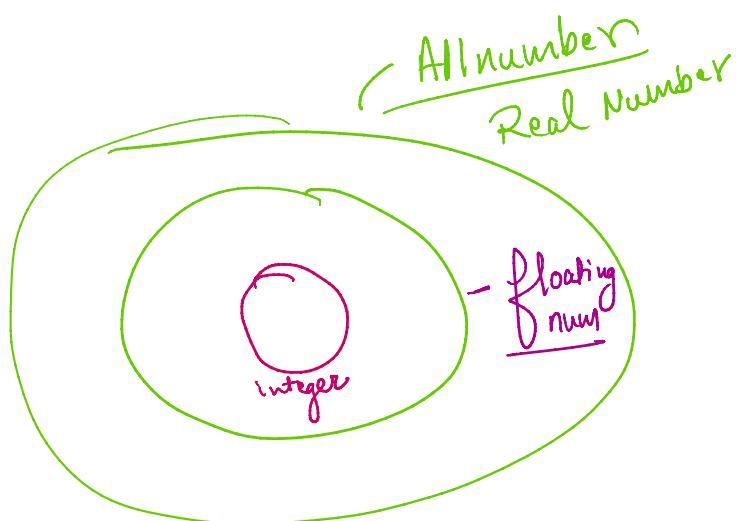
Monday, June 26, 2023 8:56 PM

# OPERATORS



## Arithmetic Operations

+ - \* /



$3^0$   
 $3^0 \cdot 0^0$   
 $-3^0 \cdot 0^1$

Every int can be represented  
as a floating number

0 a floating number

$5 \rightarrow 5.0$   
 $7.3 \rightarrow \boxed{7.0} \rightarrow$  I would lose information

$\left. \begin{matrix} \text{int} \times \text{int} \\ + \\ - \end{matrix} \right\} \text{int}$        $\left. \begin{matrix} \text{int} - \text{float} \\ + \\ \times \end{matrix} \right\} \text{float}$

/       $\rightarrow \text{float}$

Some More operators

$\star\star$  — Exponential

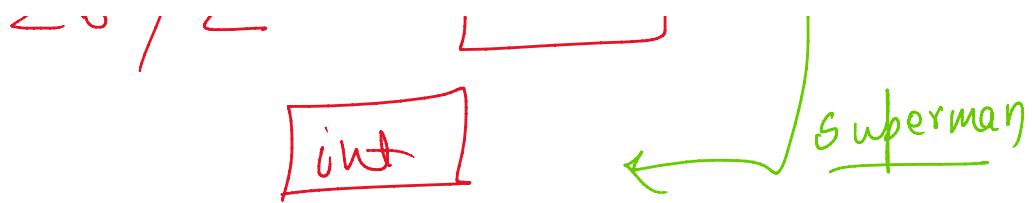
$$x^{**}y = x^y$$

$x * y$  = Multi

Floor Division ( $//$ )

$$26 / 2 \rightarrow \boxed{13.0} \checkmark$$

1 .....



$\boxed{10/3} = 3.333$   
 ↓  
 Division  
 ↓  
 3.333 ←  
 3.7    { Floor → [int] }    Ceil  
 \*              ↓  
 3              3

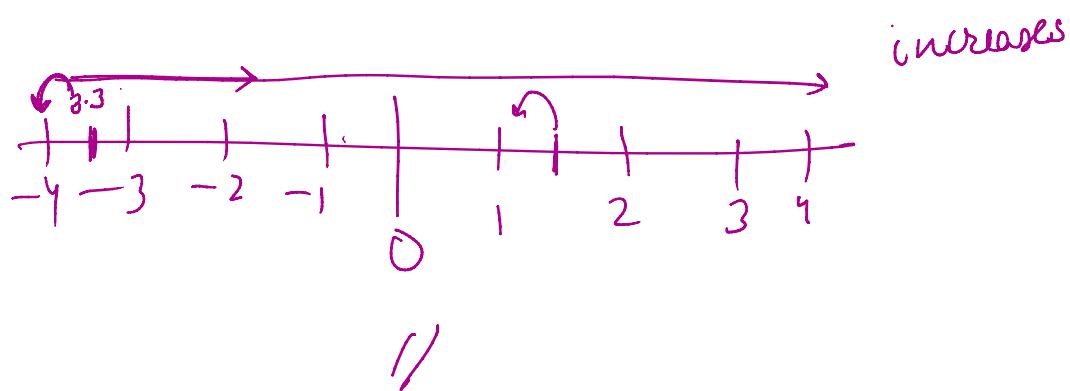
$$-10 // 3$$

$$\downarrow$$

$$-3.33$$

$$-4$$

$$-4 < -3$$



Modulus    operator



$\overbrace{\quad \quad}$

Reminder

/      //

$\begin{array}{r} \% \\ \hline 3 ) 100 \\ q \\ \hline 10 \\ q \\ \boxed{1} \end{array}$

→ → →

$\xleftarrow{x \text{ is } +ve} \qquad \qquad \xrightarrow{-x \text{ is } -ve}$

$\left\{ \begin{array}{l} x \% y \\ = y - (x \cdot y) \\ -10 \% 3 \\ 3 - (10 \% 3) \\ 3 - 1 \\ \hline 2 \end{array} \right.$

$-ax.b = b - (ax)$

$\left\{ \begin{array}{l} x \% y \\ = y - (x \cdot y) \\ -10 \% 3 \\ 3 - (10 \% 3) \\ 3 - 1 \\ \hline 2 \end{array} \right.$

{  
 +  
 -  
 /  
 \*

Basic

↖

$\star\star \rightarrow \exp x^y$

$\% \rightarrow x \% y - \text{Remainder}$ .

$// \rightarrow \text{floor division}$ .

## Precedence of operator

$$\begin{array}{r}
 10 - 4 * 2 \\
 6 \times 2 \\
 \downarrow \qquad \qquad \qquad \downarrow \\
 12 \qquad \boxed{2} \quad \checkmark
 \end{array}$$

Important

B	O	D	M	A	S
Bracket ( )	Order $x^y$	Div $x/y$	Mul $x \cdot y$	Add $x+y$	Sub $x-y$

P	E	M	D	A	S
Parathesis ( )	Exp $x^y$	Mul $x \cdot y$	Div $x/y$	Add $x+y$	Sub $x-y$

Left to Right

Left to Right

$$10 - 2 + 8$$

$$\begin{array}{r} 8+8 \\ \hline 16 \end{array}$$

$$\begin{array}{r} 6 \\ \hline 16 \end{array} X$$

$$\boxed{- +}$$

Imp  
Same



$( ) \rightarrow B$   
 $\star \star = \text{Exp}$   
 $/ \text{ } / \text{ } \cdot \text{ } * \rightarrow \text{Same Prio}$   
 $+ -$

$$10 - 4 \times 2 + 5 - 6 / 2$$

$$10 - \boxed{4 \times 2} + 5 - \boxed{16 / 2}$$

L R

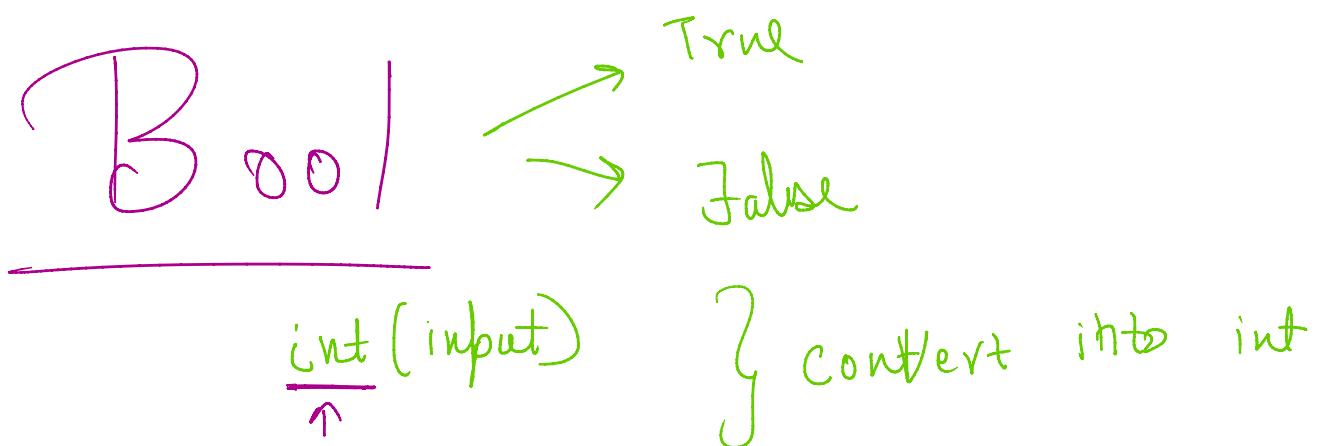
$$10 - 8 + 5 - \boxed{6 / 2}$$

$$10 - 8 + 5 - 3.0$$

$$2 + 5 - 3.0$$

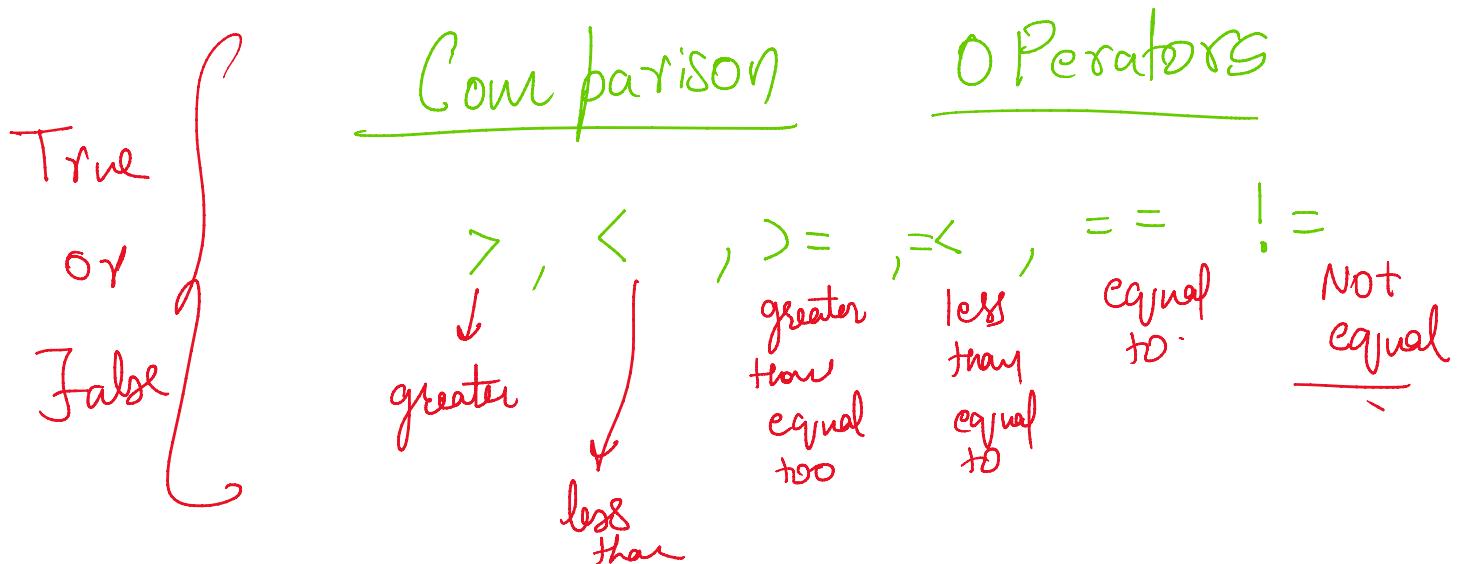
$$7 - 3.0$$

4.0



{ Sathwik (input)

bool ()      } → convert  
                    to  
                    bool



= } Assignment  
operator  
age = 18

$$10^{**-1} = \frac{1}{10} \rightarrow 0.1$$

$$= 2^{-5} \cdot \frac{1}{2}$$

input

def

$$*/+/-/\{ = a \pm = 5$$

Assign  
add

True /

$\boxed{>=}$

~~$a >= t$~~       True / False

Assignment  
Change

Drink      Drink?      Comparison

=                  T F

Marks = 50

// floor division

$10/3$   
 $\boxed{3.33}$

3

$$\begin{array}{r} -40 / 3 \\ \boxed{13 \cdot 3} \\ \hline -14 \end{array}$$

$$\begin{aligned} -3 &> -4 \\ 3 &< 4 \end{aligned}$$