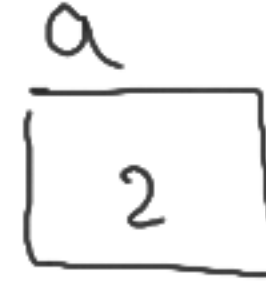


* Primitive Data Type

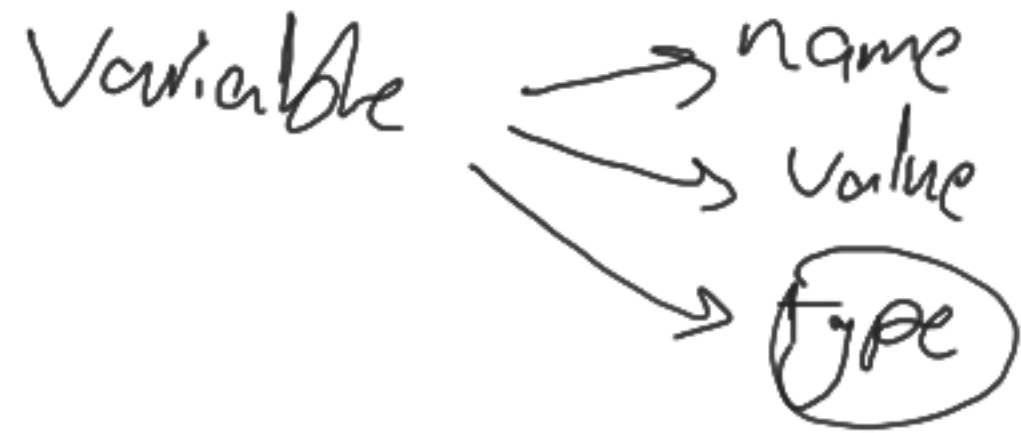
Variable (متغیر)

$$a = 2$$

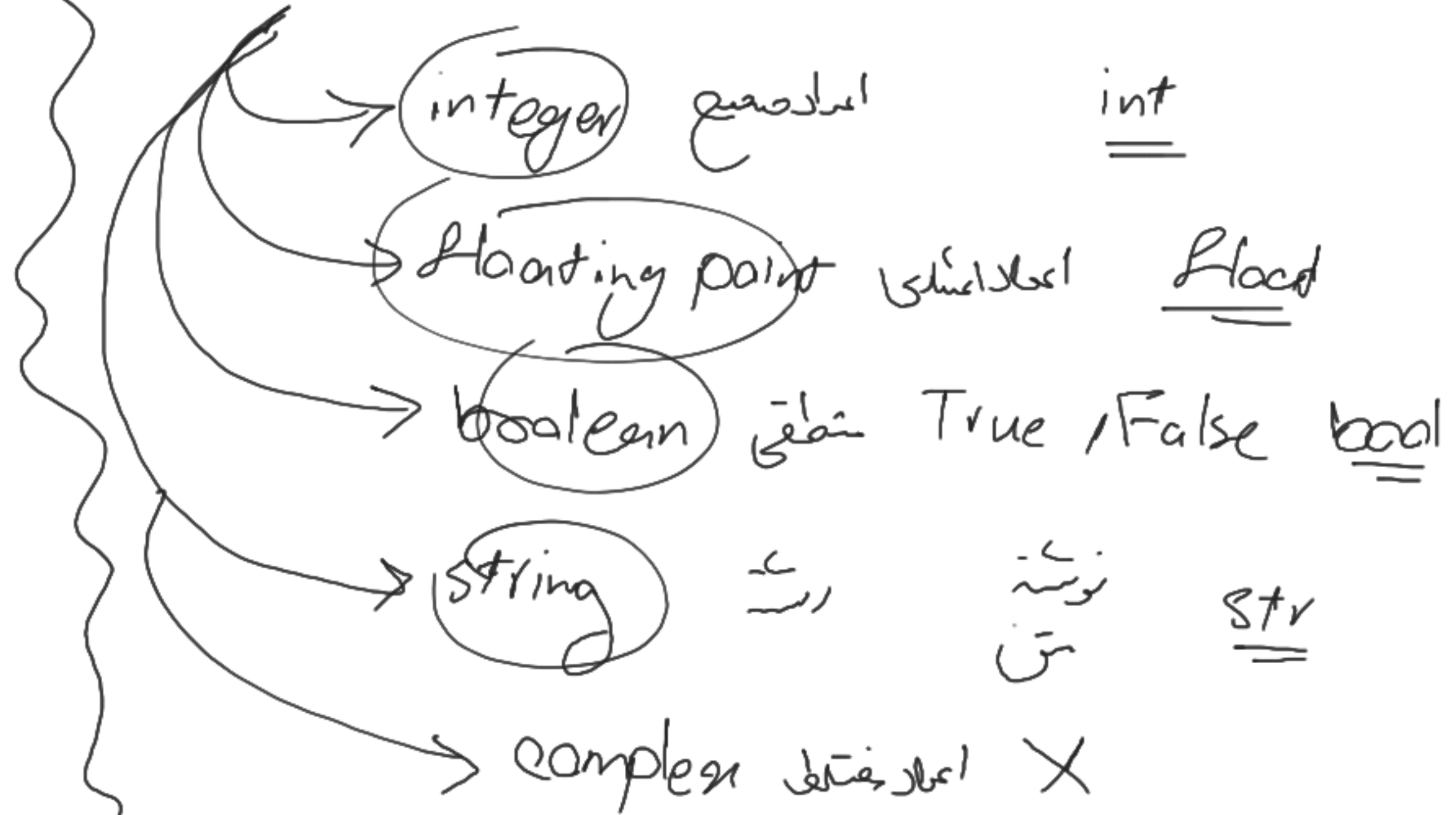


A diagram showing the equation $a = 2$. An arrow points from the number "2" to the variable "a".

01 → Binary



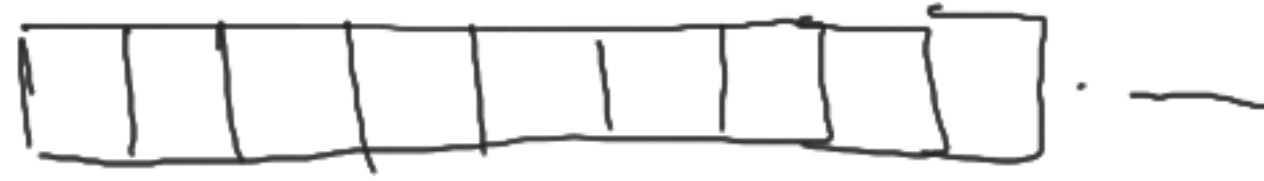
Primitive Data Type (in Python)



(int) $\xrightarrow{\text{2 bytes}}$ binary

64 bit 8 byte

5 \rightarrow (101)



(float) IEEE

64 bit 8 byte 32 bits

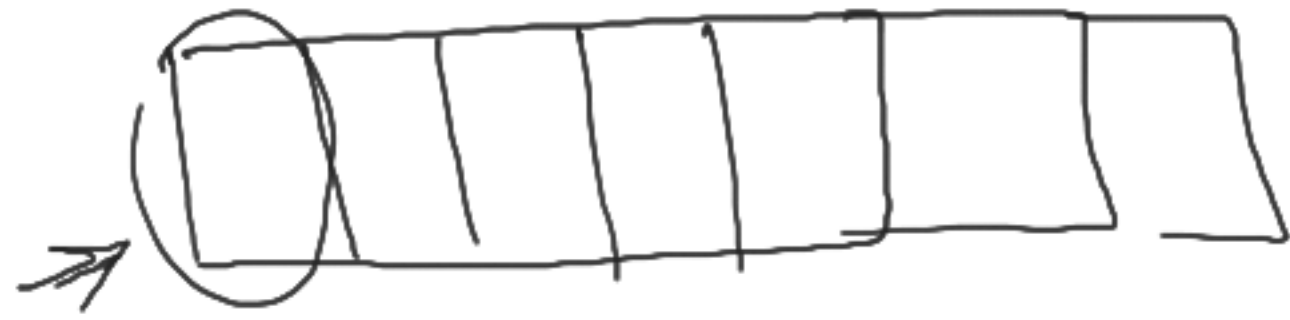
str "C++"

Three arrows point from the characters 'C', '+', and '+' in the string "C++" to three separate empty square boxes below, representing the memory layout of the string.

UTF-8

bool true/false 1 bit



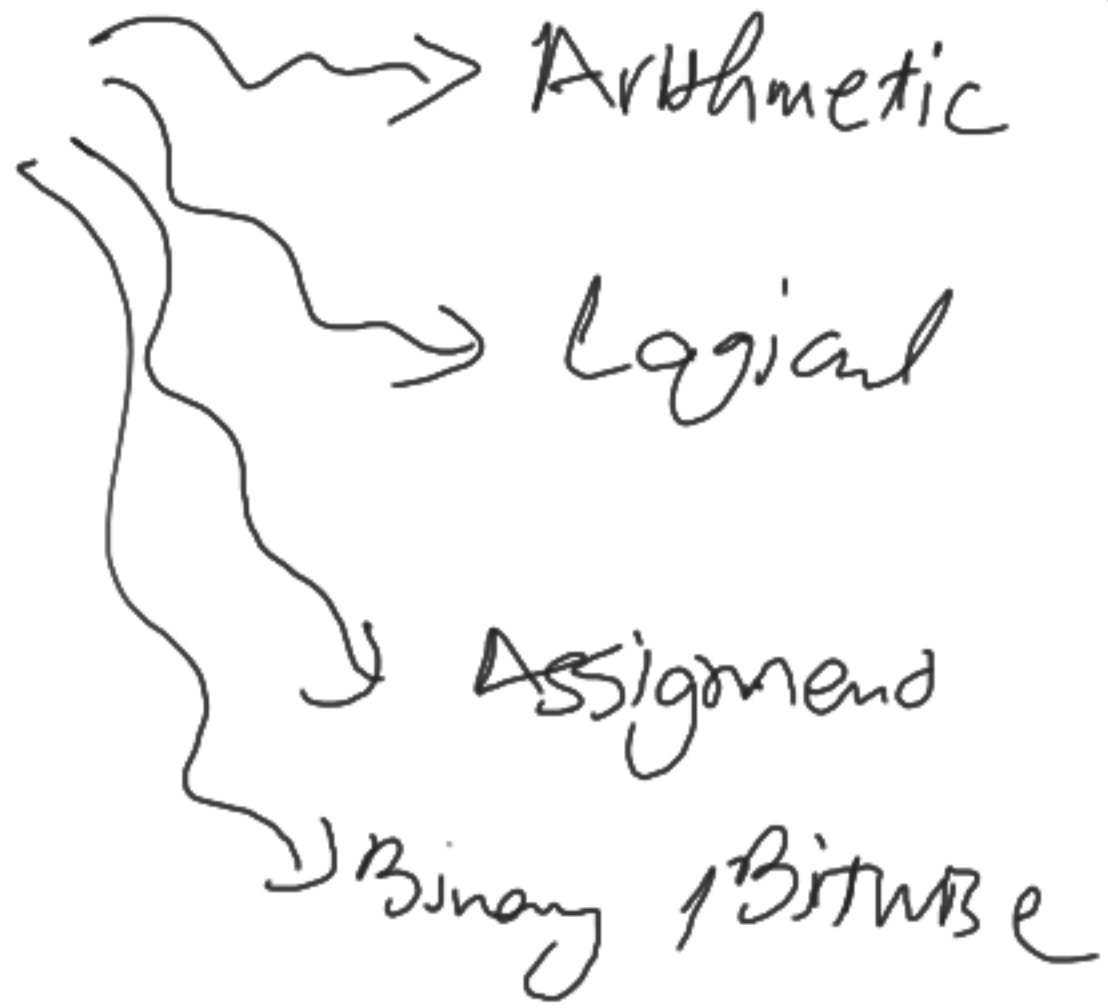


Address

C / C++ / Java
?

double @ = 7.5

Operators

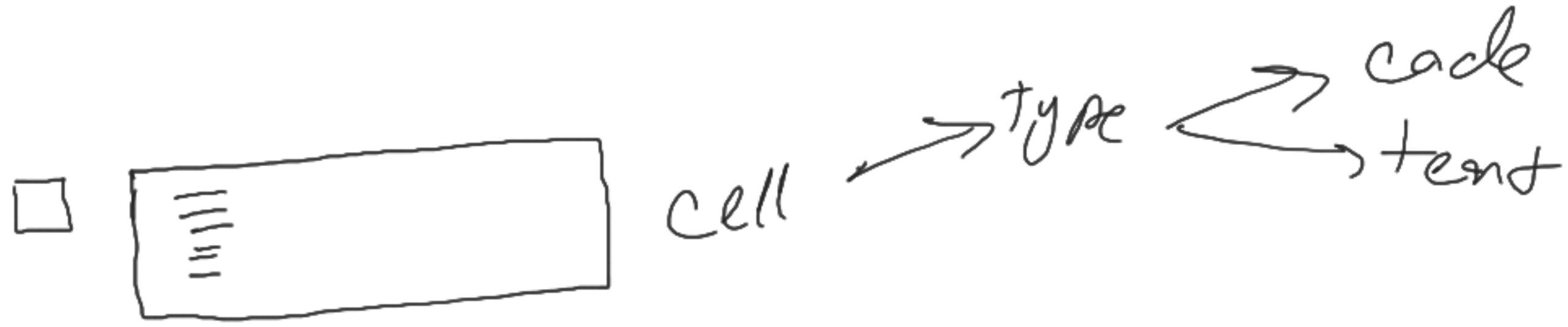


Arithmetic :

عکس عملیاتی

+	add
-	subtract
*	multiply
/	division
//	integer division division
%	modulus operator

Colab → Google Colab → 12GB
2 Core CPU
GPU / TPU



$a = 2$

print(a)

$a // b \approx c$

57

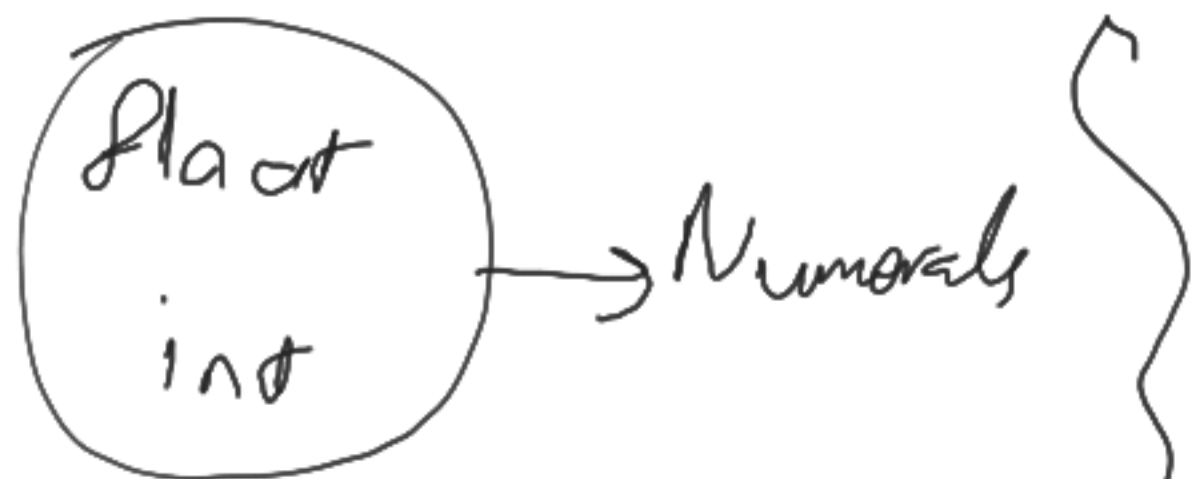
$C * b \Rightarrow a$

$a // b = 0$

integer

$2 // 57 = 0$

$57 // 2 = 23$



T

int

type

$a = 2$

`type(a)`

`type(2)`

arithmetic operator

$\{ \begin{matrix} * & / & \% \\ \downarrow & & \uparrow \\ \text{int} & & \text{int} \end{matrix} \} \Rightarrow \text{int}$

4

$a = 4$

$b = 2$

a / b

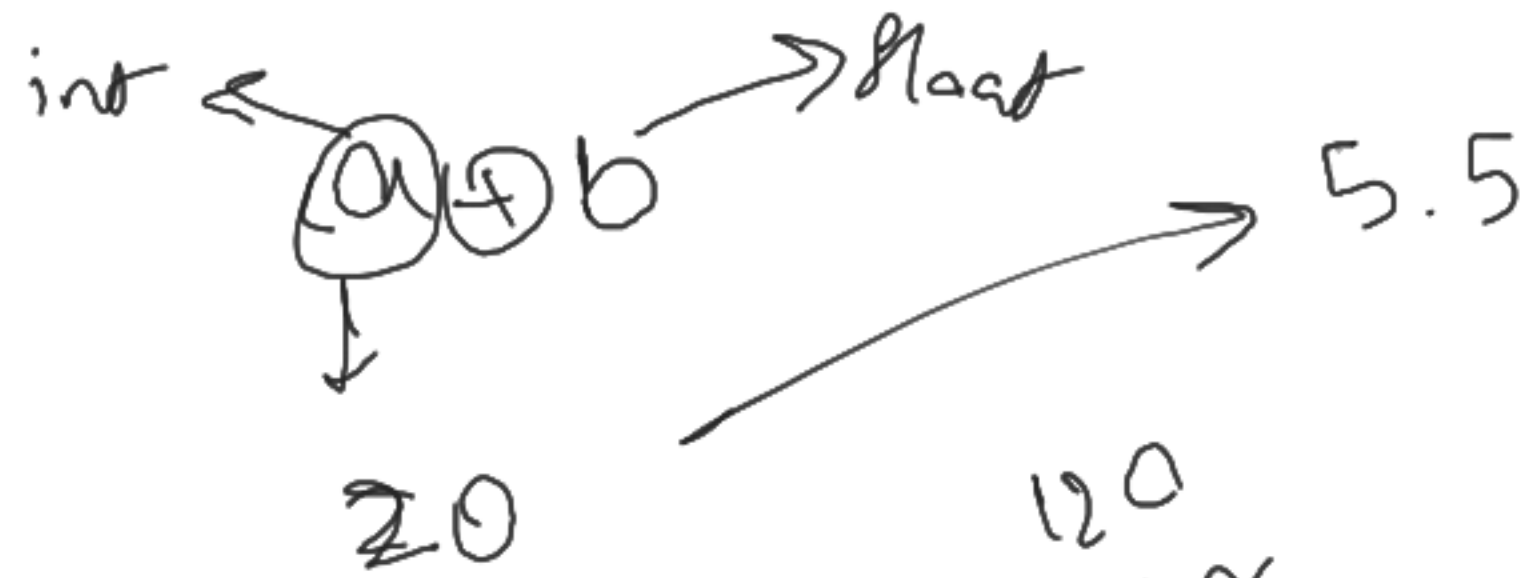
\leadsto

2.0

2

$$a = 2$$

$$b = 3.5$$



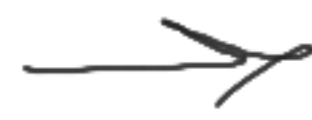
$$\begin{array}{r} 1.5 \\ \times 0.6 \\ \hline \end{array}$$

$$\begin{array}{r} 120 \\ 60 \\ \hline 2 \times 0.1 \times 15 \end{array}$$

$$\begin{array}{r} 2 \\ \hline 0.12 \end{array}$$

Logical Operators

اپنے برقی منطقی



==

>

<

>=

<=

!=

and

or

not

boolean
True
False

$a == b$

$a != b$

$a > b$

$a < b$

$a >= b$

$a <= b$

and

or

not

p	q	p and q	p or q	not p
True	True	True	True	False
True	False	False	True	False
False	True	False	True	True
False	False	False	False	True

جواب

float

int

str

bool

String

strings

"O"

'O'



↓
abstracting

' "

~~"~~

ali hamid

"ali hamid"

\n : newline

\t : tab

\\ : \

alphabet

uppercase

lowercase

numerals

(-)

A-Z

a-z

0-9

Ali

@ali

a@li

f-string format join translate