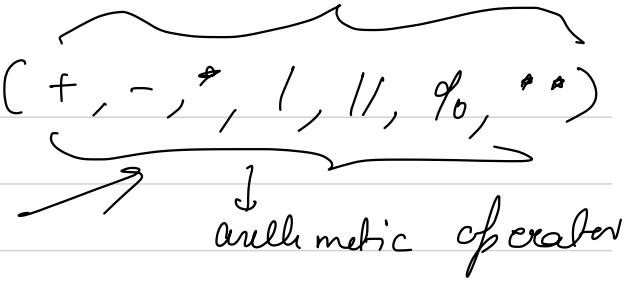
Agenda → We will learn usage of (+, -, *, /, //, %, **)



→ Decision Box

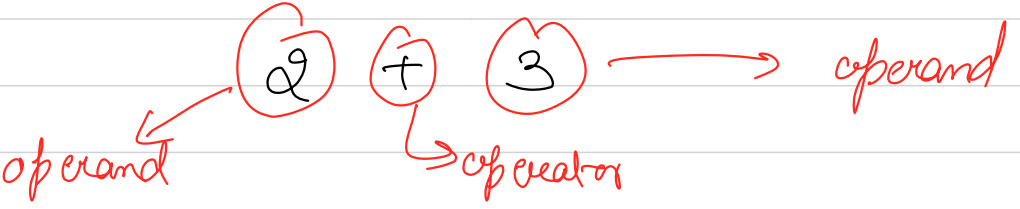
→ Relational operators

Q:) What are operators ??

→ These are special symbols used to demonstrate specific logical or mathematical operation.

→ There exist different type of operators-

Operands are values on which operator operate.



(1) Arithmetic Operators → These will focus on mathematical calculation

Operator	Symbol	operation	example
addition	+	adds the given operand	3 + 4 (= 7)
Subtraction	−	subtracts operands	7 − 5 (= 2)
multiply	*	multiply operands	4 * 3 (= 12)
division	/	divide operands	5/3 (= 1.666...)
→ Integer division	//	Divides the operands and only give integer part	5//3 (= 1)
Modulus	%	Divides the operands & returns remainder	6%4 (= 2) → remainder
Exponent	**	Raise power	2**3 = (8) → (2^3)

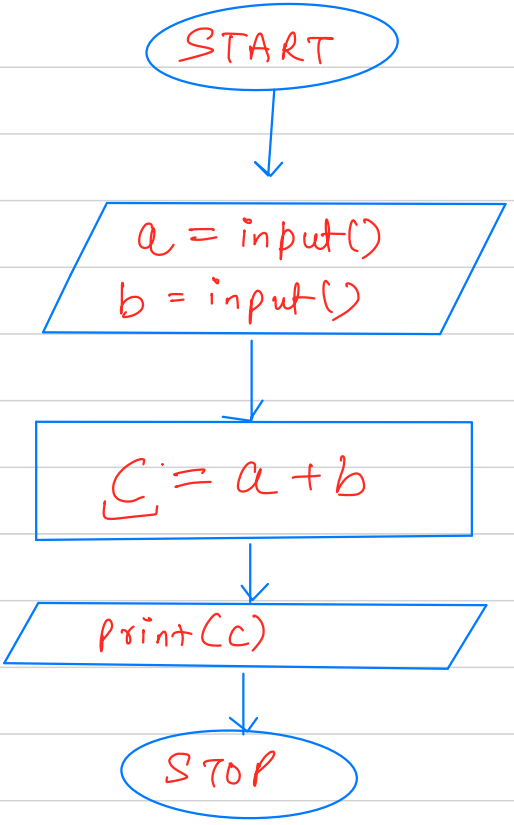
quotient

In flow charts there exist a seperate box to represent processing. Represented via 

↓

rectangle

Let's draw a flowchart to add 2 numbers



a + b = c

LHS

RHS

→ creats a new variable 'c' & stores sum of a, b

Q=> You are given two values from user. Draw a flowchart that will store both values in variables print the variables and then swap the values of both the variables & print again.

You need to swap both the numbers without using any third variable.

initial → a=10, b=20

final → a=20, b=10

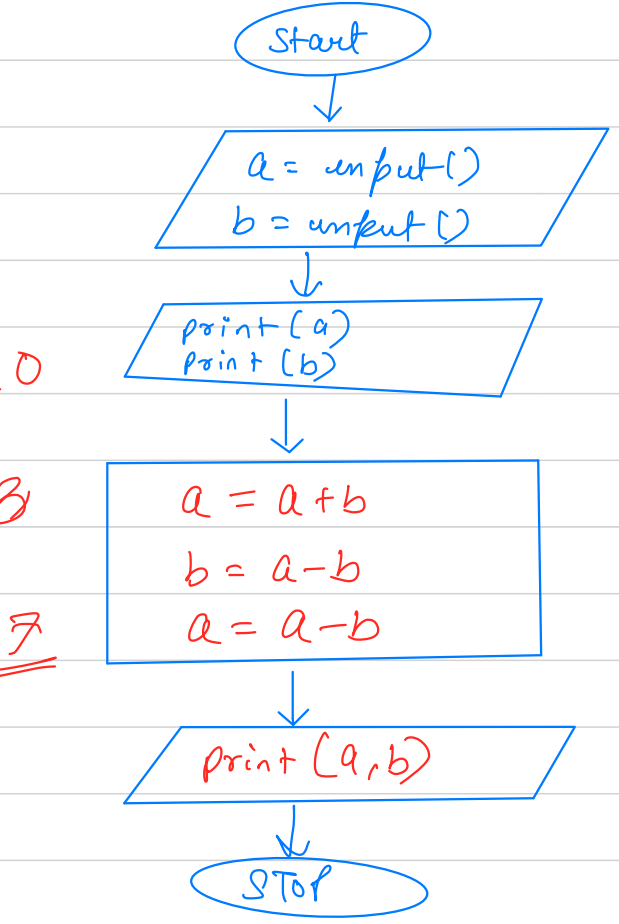
a = 13
b = 7

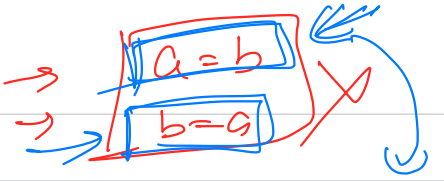
2 ✓

a = a + b → 20

b = a − b → 13

a = a − b → 7





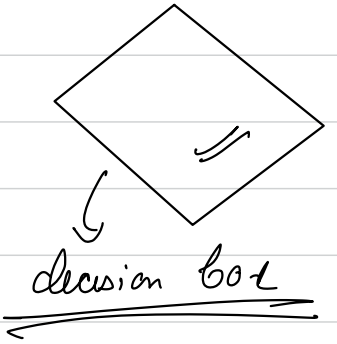
we loose a's original val.

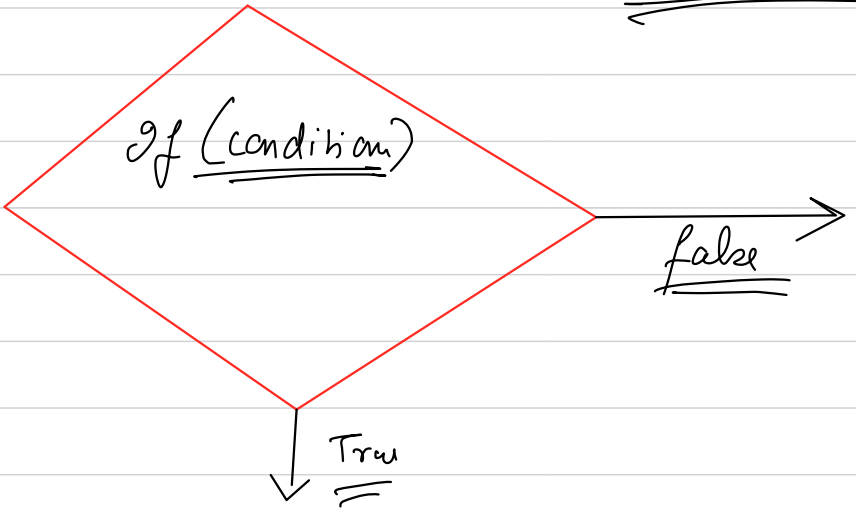
b = 9 ✗

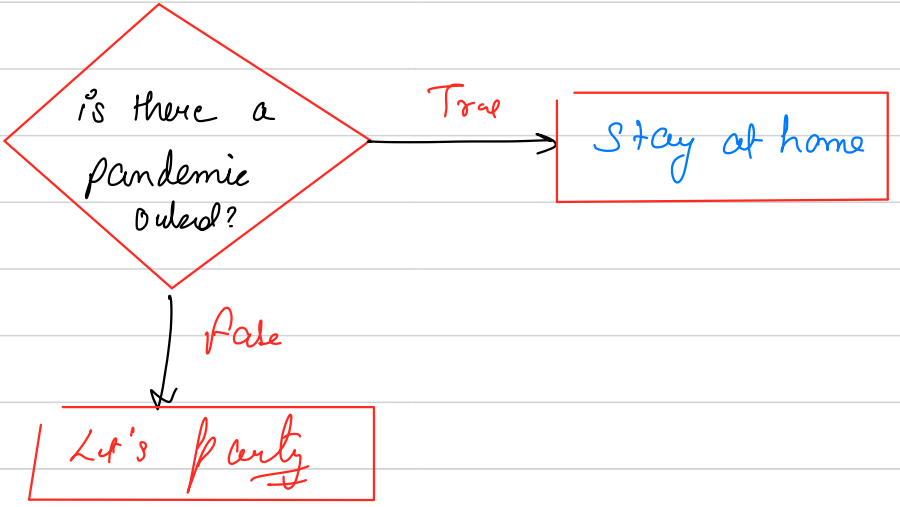
b ✓

We need to now modify a such that b can use it's own value to extract a's value.

Conditionals → flowchart →





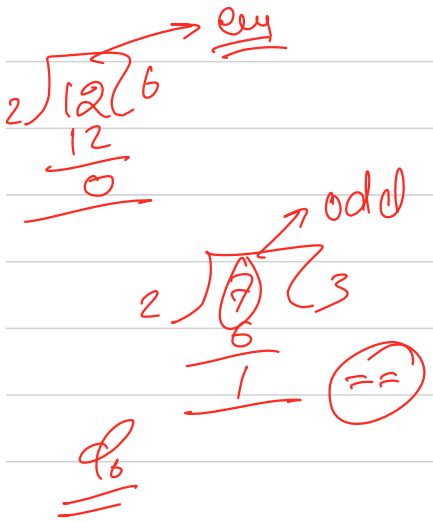

is there a pandemic outbreak?
True
Stay at home
False
Let's party

To make some decisions, we might need to do comparison → Relational operators

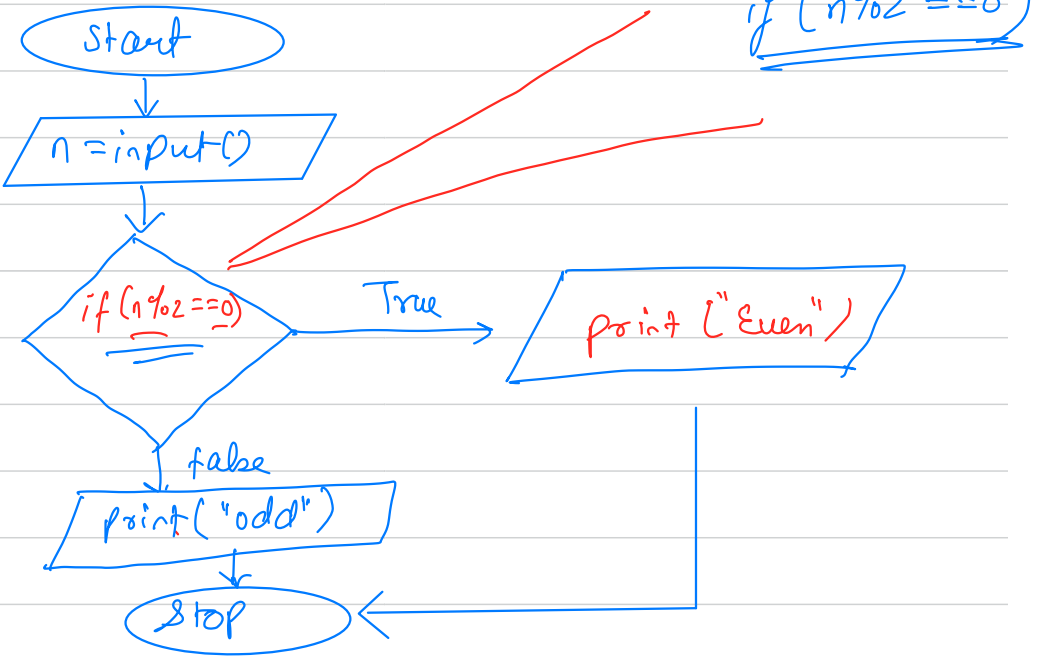
operator	Symbol	description / operation	example
greater than	>	checks if first is greater than second	7 > 5 (= True)
less than	<	checks if first is lesser than second	5 < 4 (= false)
greater than or equal to	>=	Checks if first operand is greater than or equal to 2nd	6 >= 5 (= True) 5 >= 5 (True)
less than or equal to	<=		7 <= 10 True 11 <= 11
Equals to	==	if first is equal to second	5 == 5 (true)
not equals	!=	if first is not equal to second	7 != 5 → true 5 != 5 false

Conditionals

Q→ Draw a flow chart to check if a no. is odd or even.



Q6



A%B != 0 A > 0 B > 0

A = (A//B) * B + A%B

A = 9, B = 4

9 4

7 4

(7//4) x 4

1 → 4

(9//4) x 4 → 9 + 1

(9//4) x 4 → (2 * 4) + 1

(2) x 4 + 8 + 1