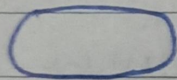


## 30 DAYS CHALLENGE

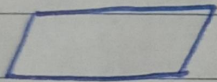
## DAY 1

- Setup python IDE
- Flowcharts

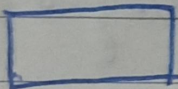
Schematic Representation of Algorithm or Process



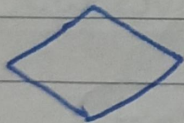
start/end



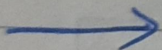
~~process~~ input/output



process

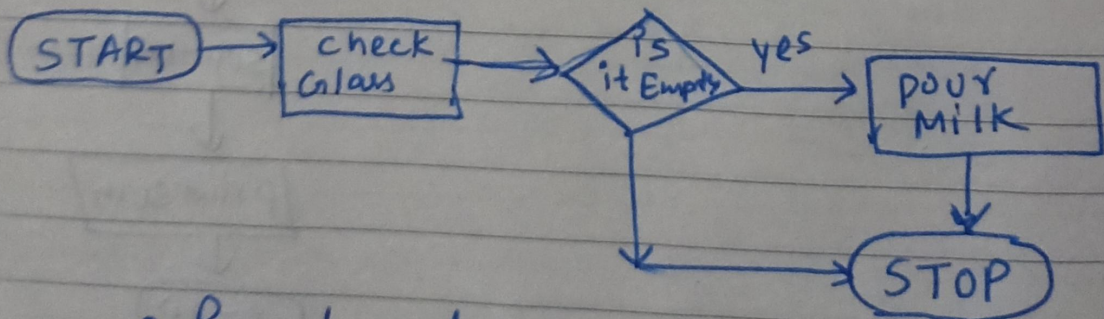


Decision



Indicate flow

Ques flowchart that shows how to pour glass of milk?



- Pseudocode / Algorithm

However beautiful the strategy, you should occasionally look at the results



# step by step solution of problem.

# Procedure :- A finite sequence of well define instruction.

# Algorithm :- step by step procedure to solve problem.

# Flowchart :- pictorial Representation of Algorithm.

# Pseudo Code :- Compact & informal Description of program.

Ques Algorithm & flowchart of Adding 10 and 20.

Algorithm

1 Initialize  $sum = 0$

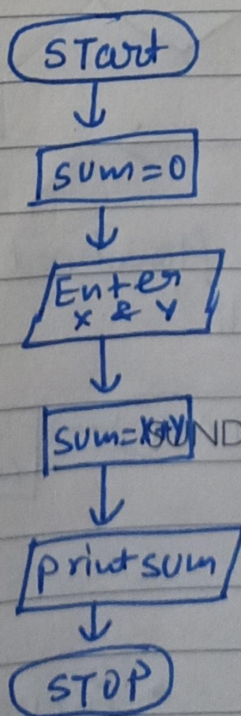
2 Take num 1 and num 2

3 Add them & store

AT  $sum$ .

4 Display  $sum$

flowchart



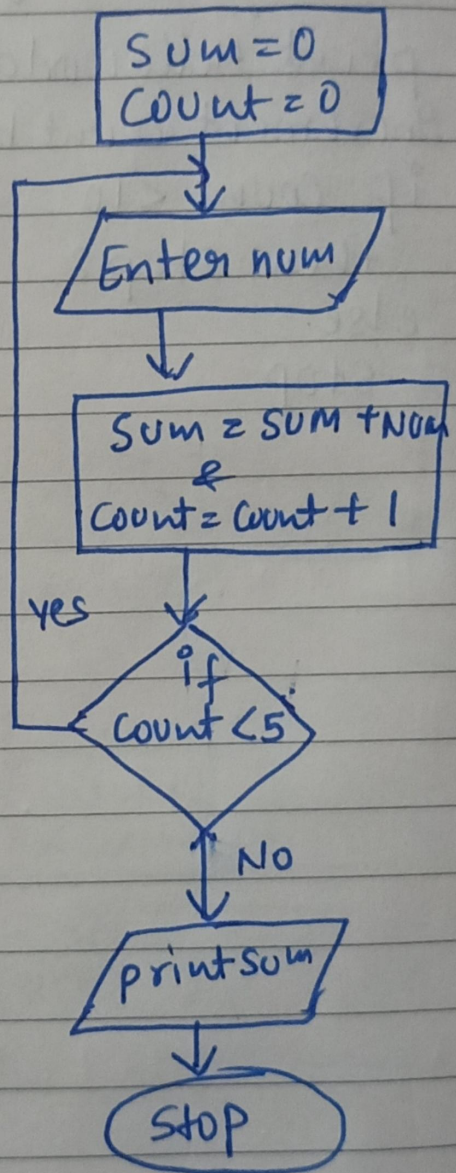


# Ques Algorithm & flowchart of sum of 5 number.

## Algorithm

- 1 Initialize  $sum = 0$  &  $count = 0$
- 2 Enter num
- 3 Add sum and num and Assign it to sum and increment count By 1
- 4 if  $count < 5$  then go to step 2.  
else  
print (sum)

## Flowchart





# Data Representation

# Number System :- are the technique to represent numbers in the Computer system Architecture.

# Every Value we store in Computer are defined as Number system.

# As Computer Architecture support different Number system that why we need conversion technique.

# Binary ( $2^n \dots 2^0$ ) 0 & 1 states like ON/OFF (2bit)

# Decimal — Number system we use in Mathematics.

# Octal :- 8bit

# Hexadecimal :- 16 bit (0 to 9 + A to F)

# Conversion of All number system from each other.

Binary to Decimal (10-1)

Ex:- 101011

$$1 \times 2^5 + 0 \times 2^4 + 1 \times 2^3 + 0 \times 2^2 + 1 \times 2^1 + 1 \times 2^0$$

$$= 2^5 + 2^3 + 2^1 + 1$$

$$= 32 + 8 + 2 + 1$$

$$= 43.$$

# Decimal to Binary

43

$$2^5 = 32$$

$$2^6 = 64$$

101011

9	43	1
2	21	1
2	10	0
2	5	0
2	2	1
2	1	0
	0	1

1 Nibble = 4 bits BCD & Hexa

1 Byte = 8 bits

1 Word = 16 bits = 2 byte

Similarly other conversions.