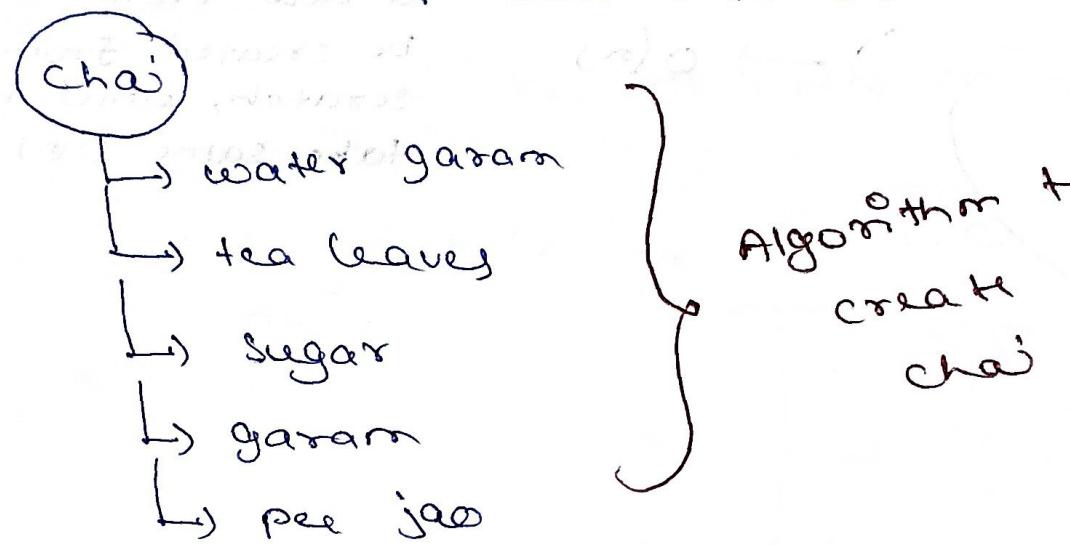


Intro to programming

algorithm \rightarrow series of steps to solve a problem statement.



④ How to Approach a Problem ?
(thought process)

P.S. \Rightarrow i/p $\rightarrow 100, 200$

$\qquad\qquad\qquad$ sum

distance = 20 km

time = 2 hr

\Rightarrow speed = ? $s = \frac{d}{t} = 10$

$$\begin{aligned} a &= 100 \\ b &= 200 \\ c &= a + b \\ &= 100 + 200 \\ &= 300 \end{aligned}$$

- Ⓐ Understand the problem
- Ⓑ input values (i/p)
- Ⓒ Logic create // Algorithm (find)

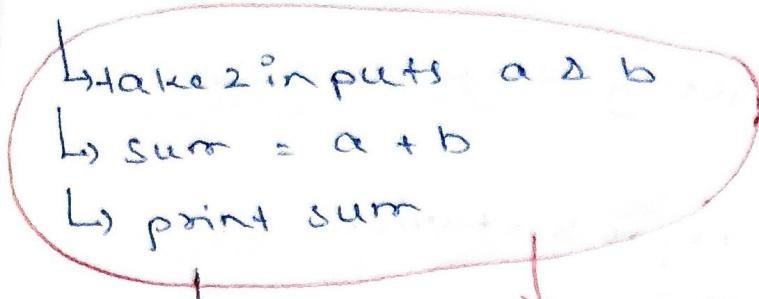
How ??

[steps]

problem statement

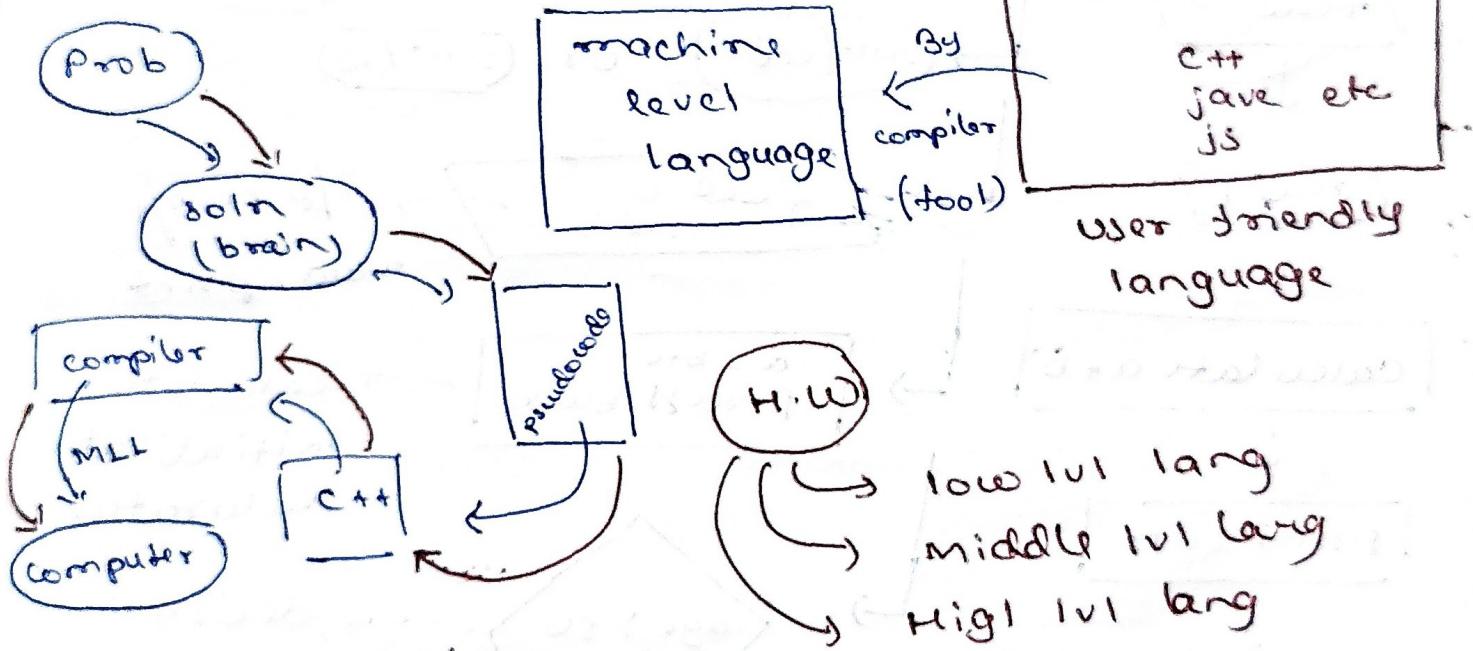
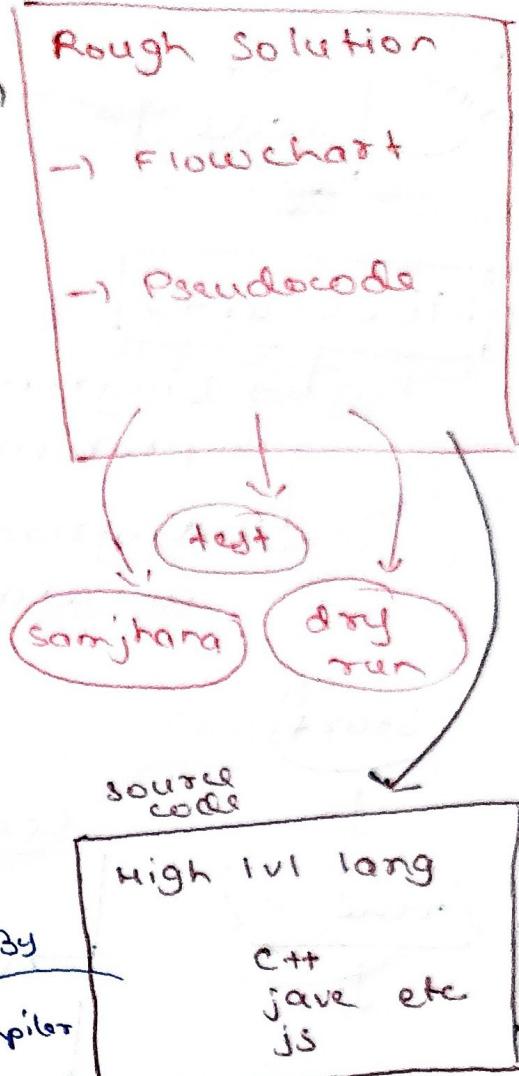
rough solution
(Brain)

Pseudocode → add 2 no.



computer
won't
understand
this.

write however
you like.
logic should
be correct.



Q Check prime →

↳ 1 divisible
↳ itself

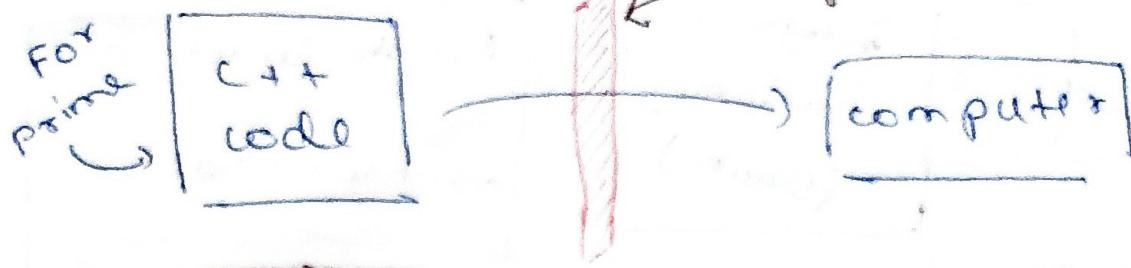
17 → 17/2 → rem ≠ 0

17/3 → rem ≠ 0

:

17/16 → rem ≠ 0

17 is a prime no.



Flowcharts

↳ Diagram depicting steps to solve problem

↳ diagrammatic representation of an algorithm.

↳ sequence of steps to solve a problem

Start

[read a]

[read b]

calculate $a+b$

[print sum]

End

Components of flowchart -

start/end

or start/end

start/end

read a,
read b

$a = b+c$
process block

age > 50

false

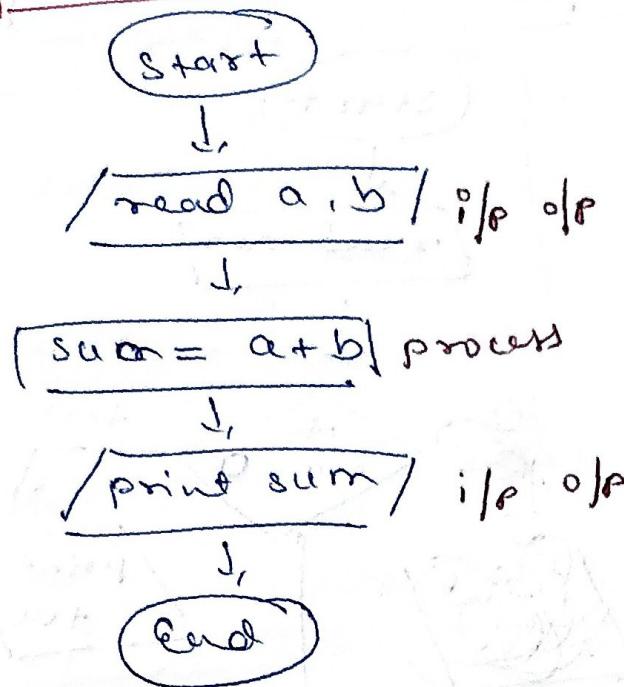
true

A is function

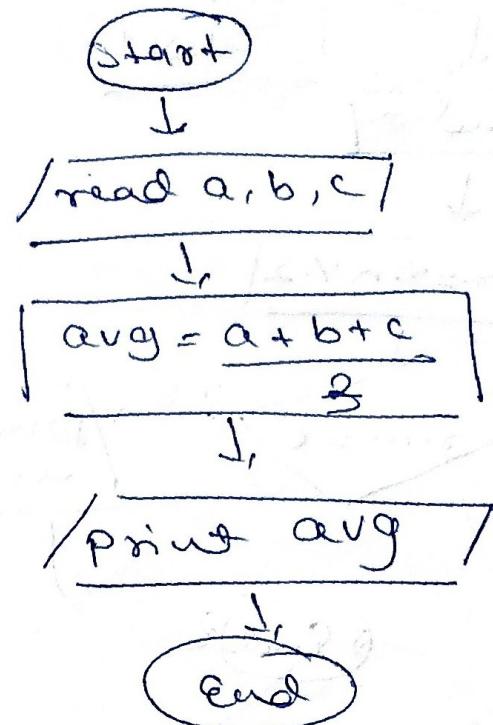
connector

flow of execution

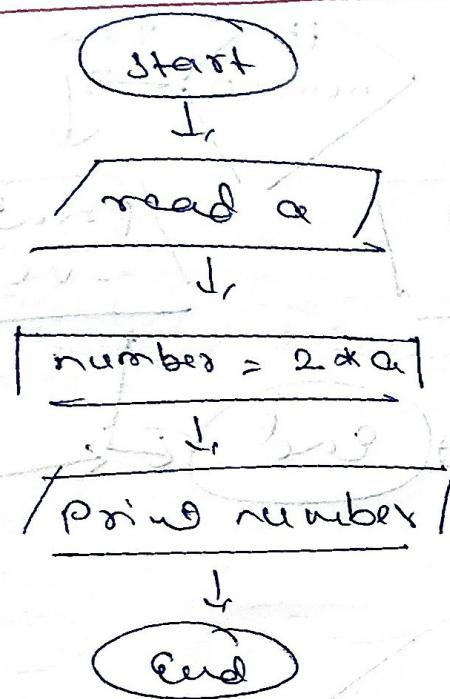
① print sum of a & b



② Avg of a, b, c

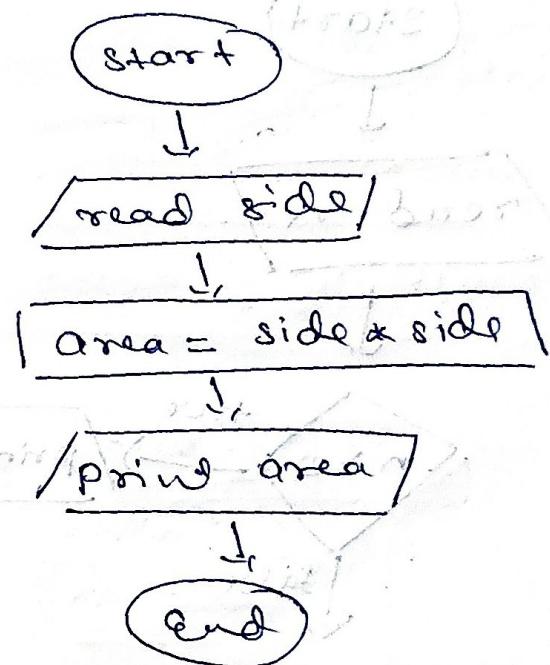


③ print twice of a.

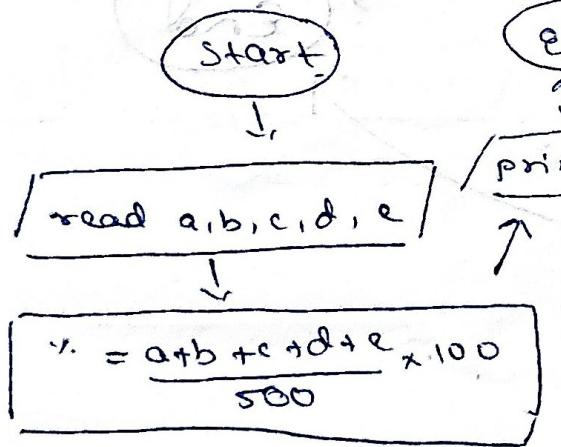


④

Area of square

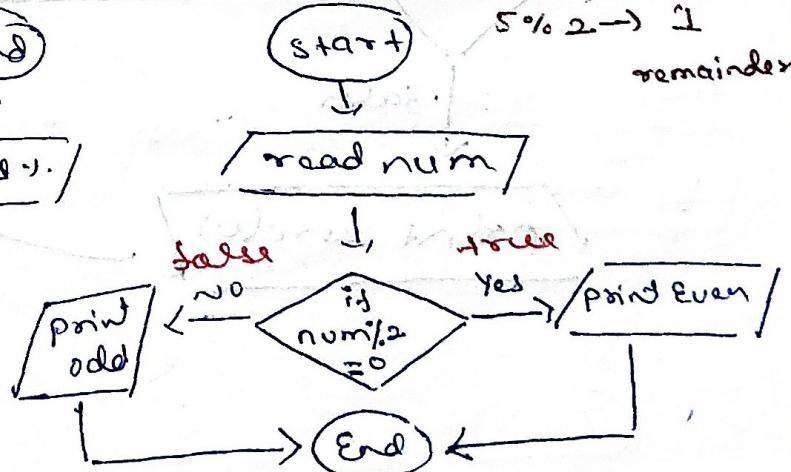


⑤ Calculate overall %

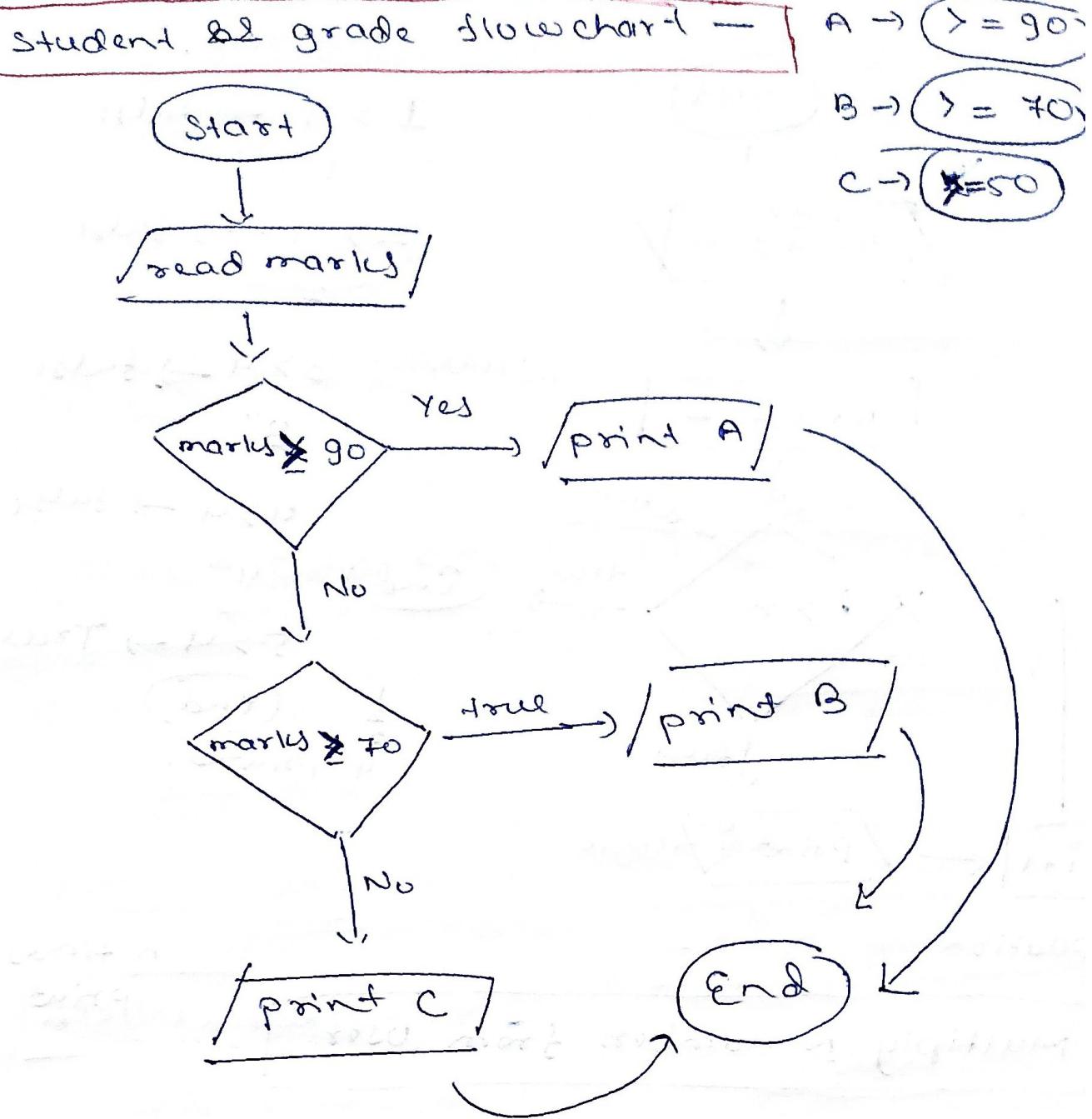


marks
a
b
c
d
e

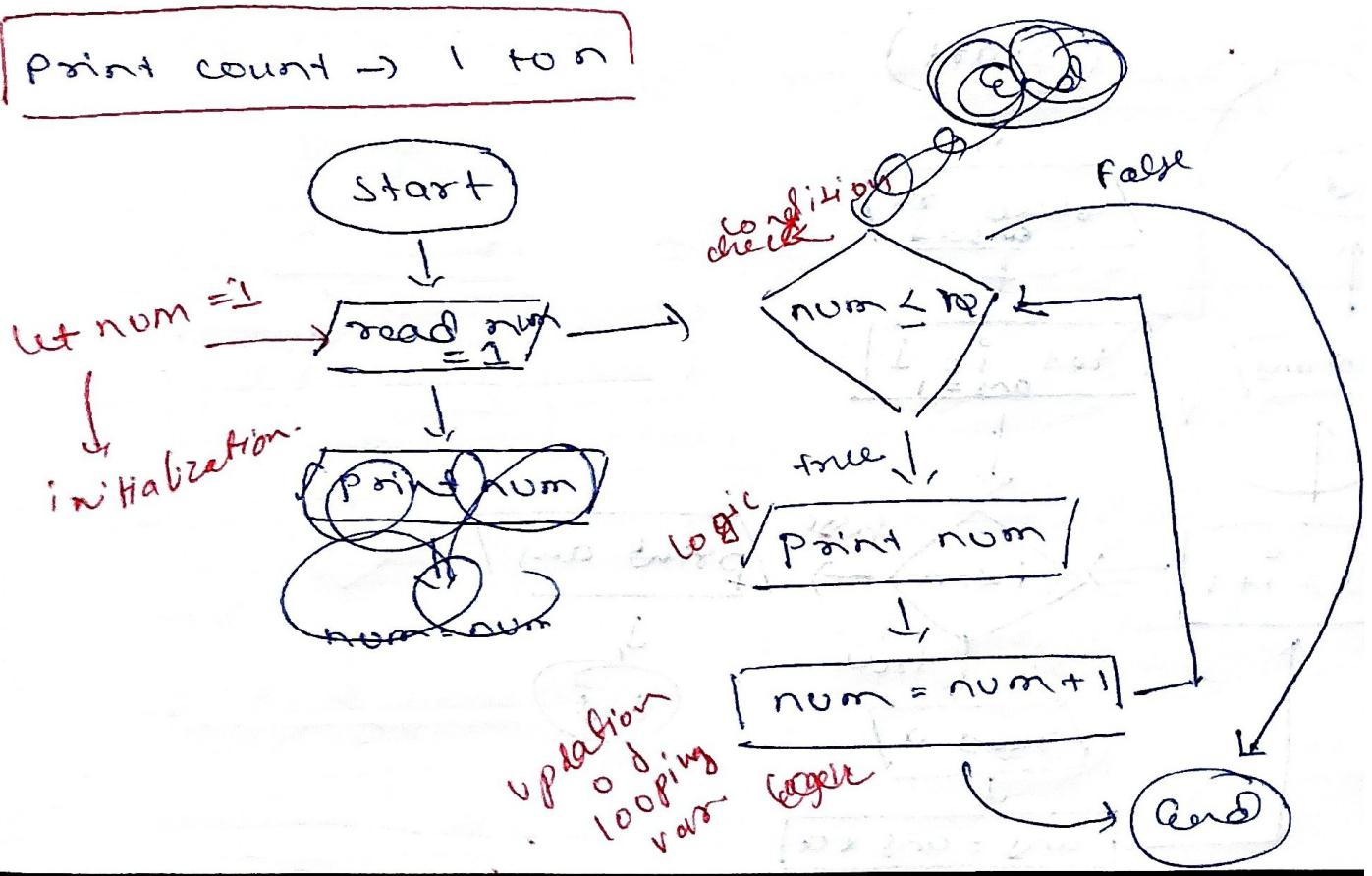
⑥ num → even or odd

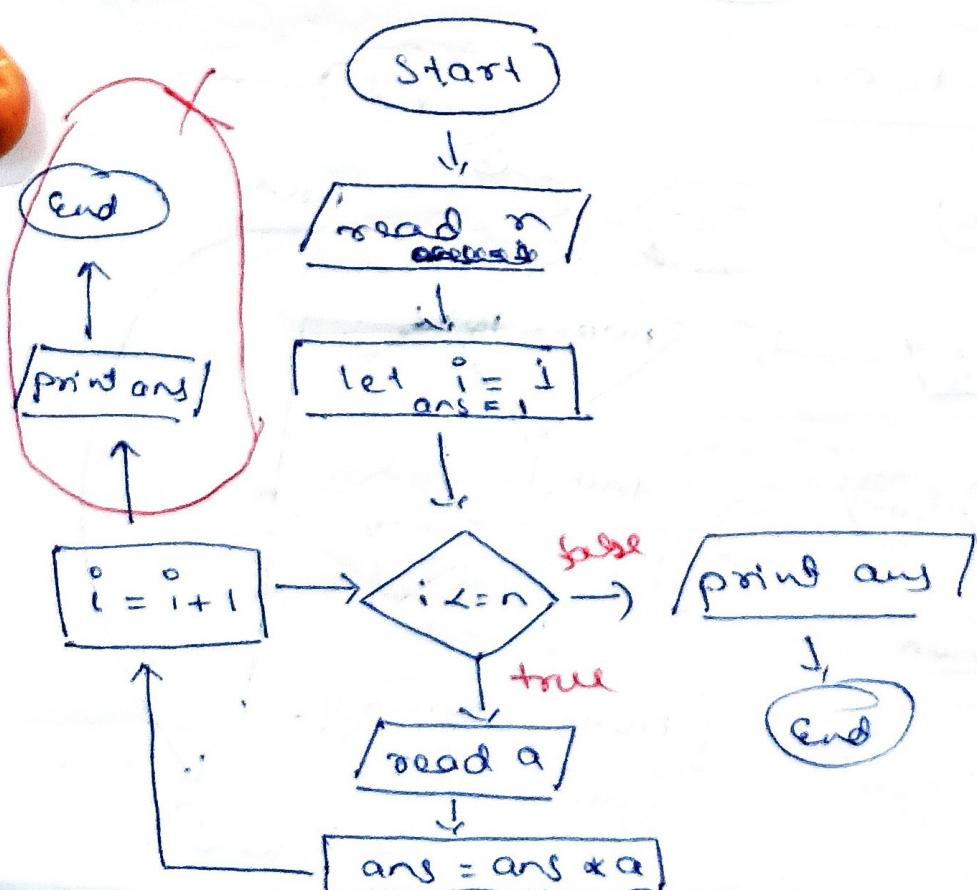
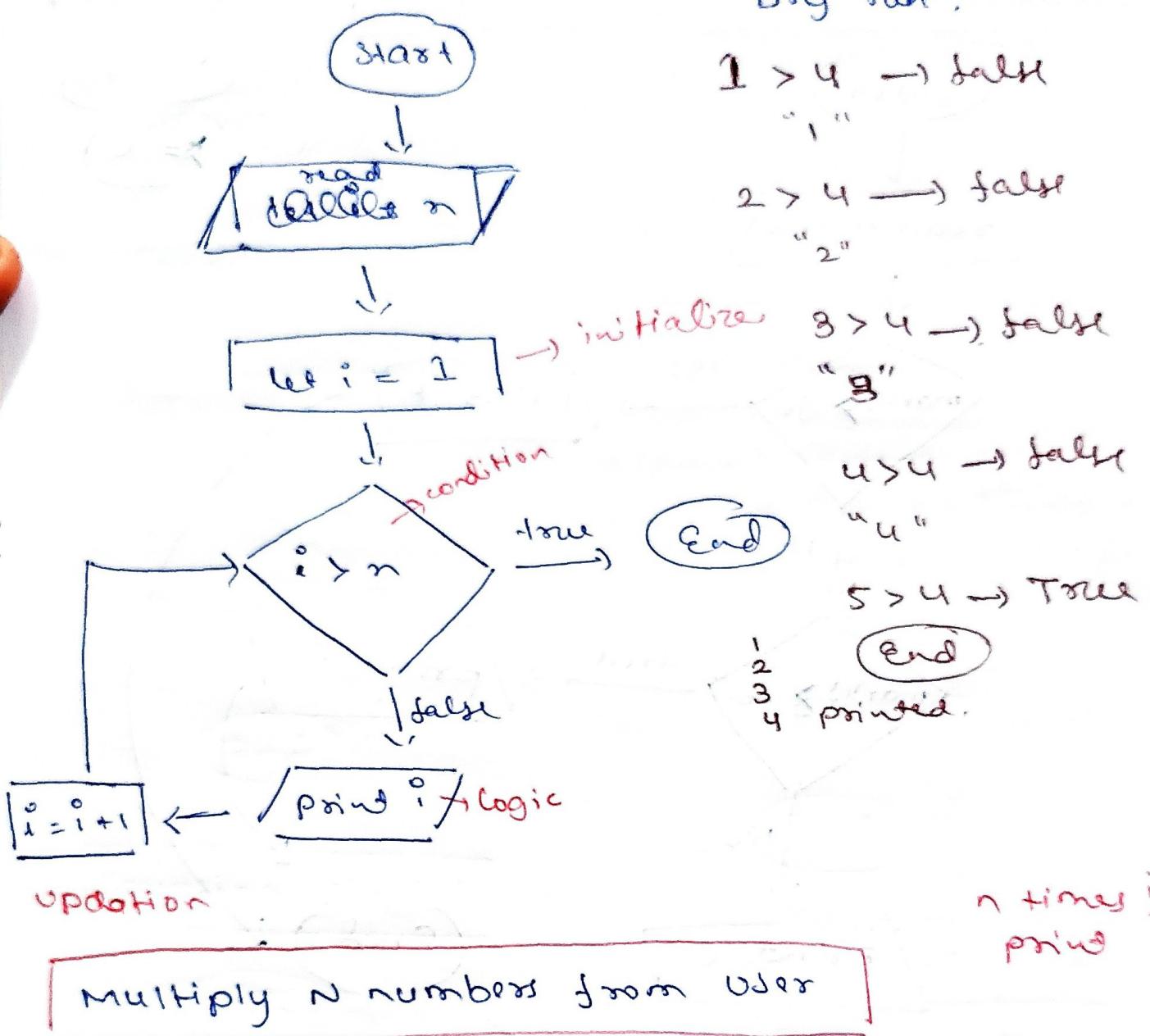




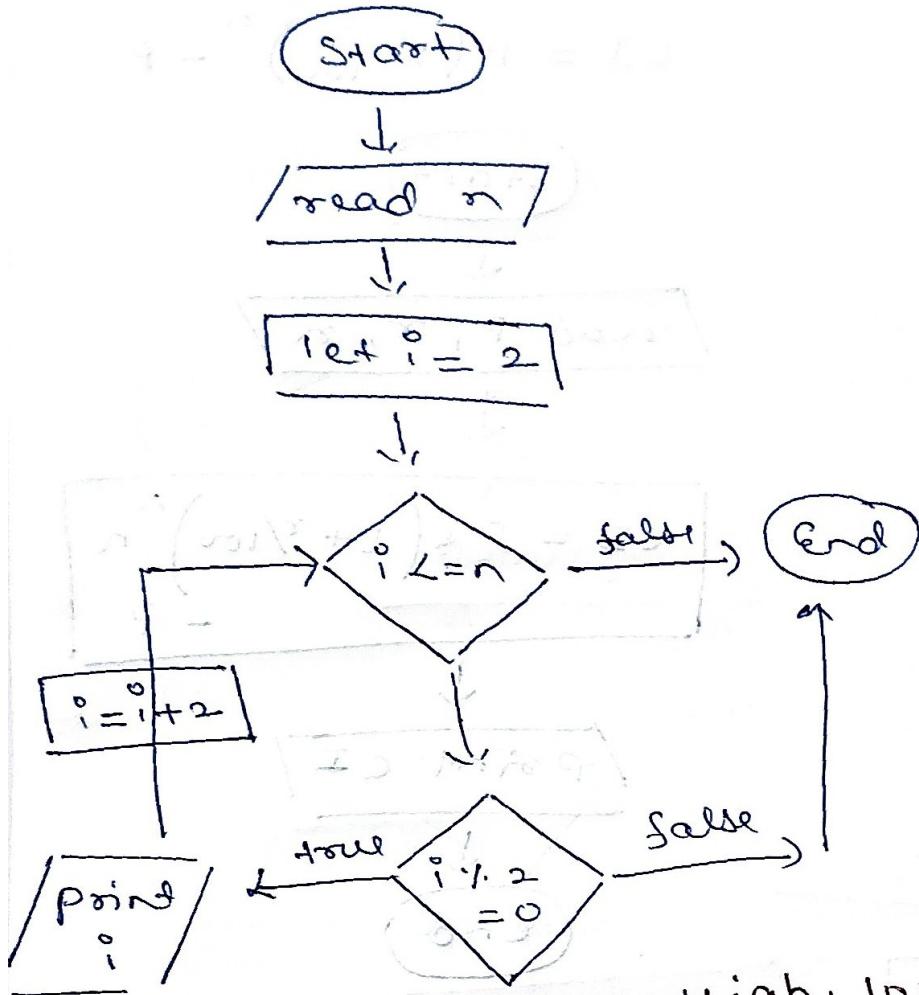


point count \rightarrow 1 ton



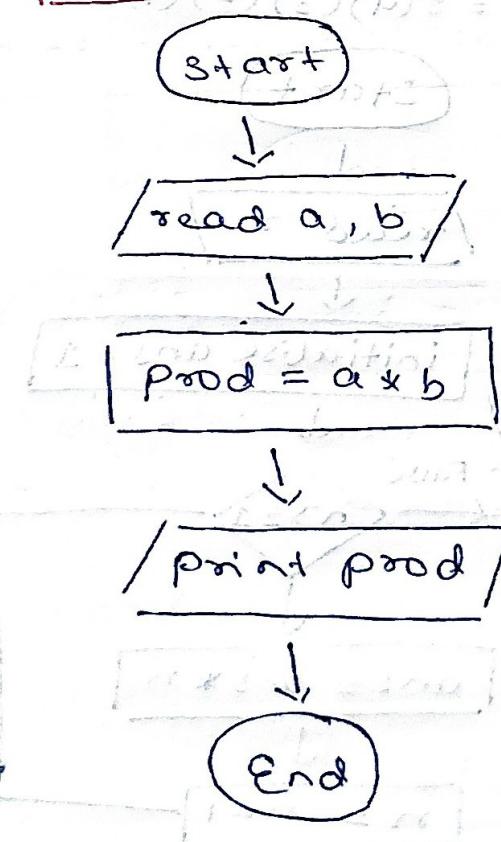


print 1 to n → even

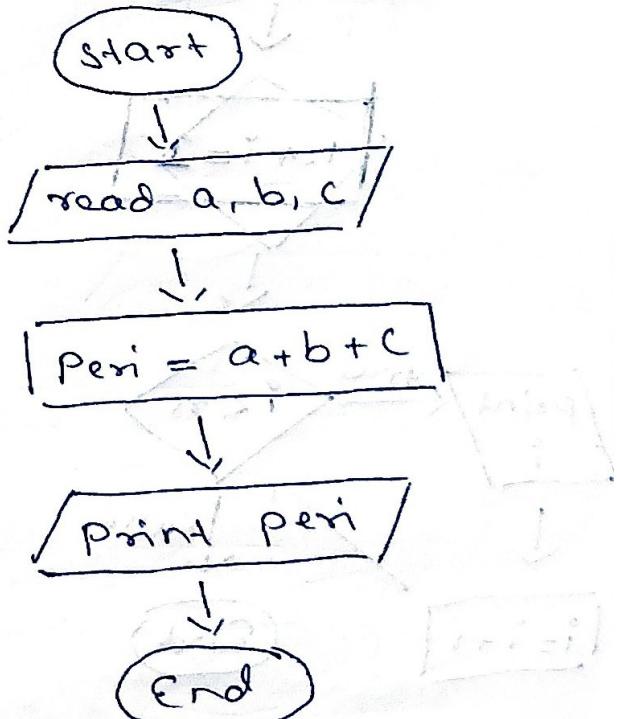


High, low & Middle
lv1 language +
flowcharts →

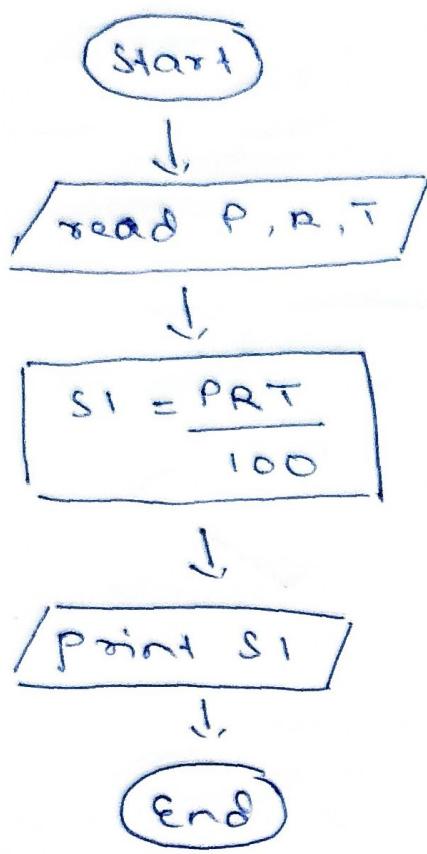
① Multiplication by taking input



② Perimeter of Triangle

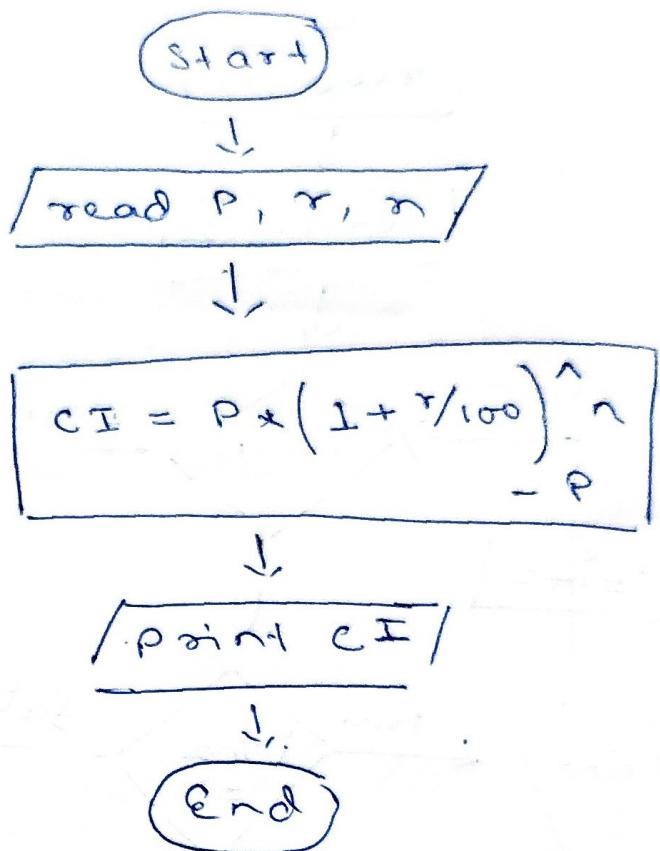


③ Find SI

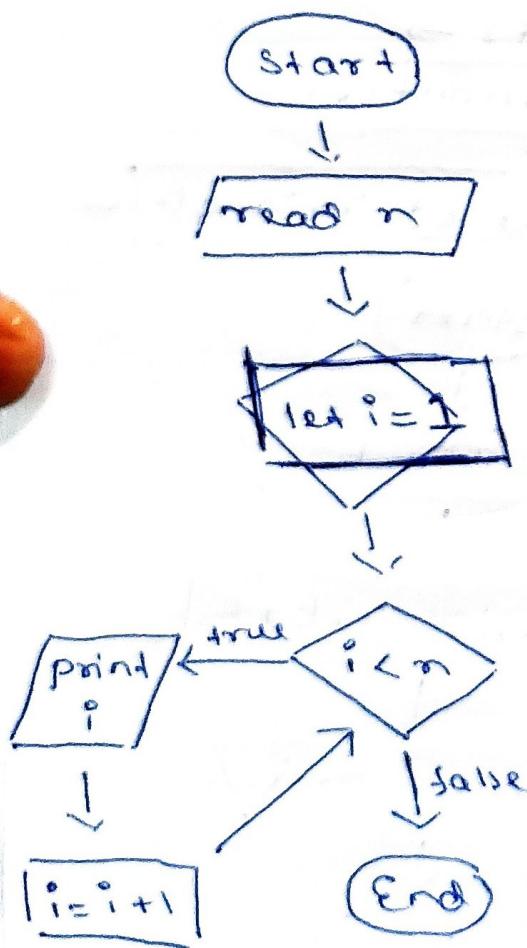


④ Find CI

$$CI = P \left(1 + \frac{r}{100}\right)^n - P$$



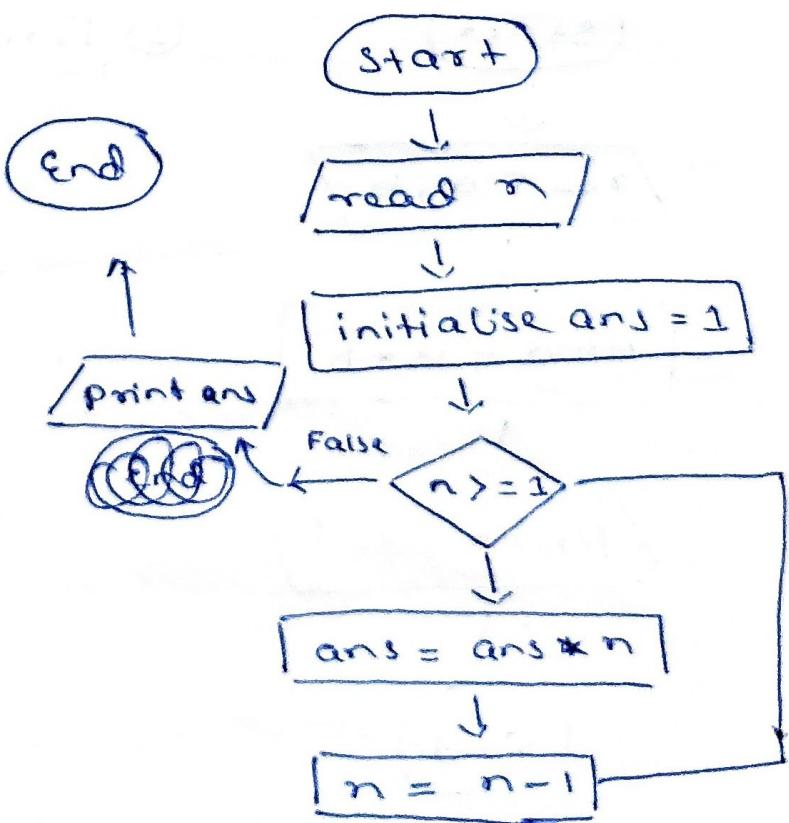
⑤ counting $N \rightarrow 1$



⑥ Factorial of n

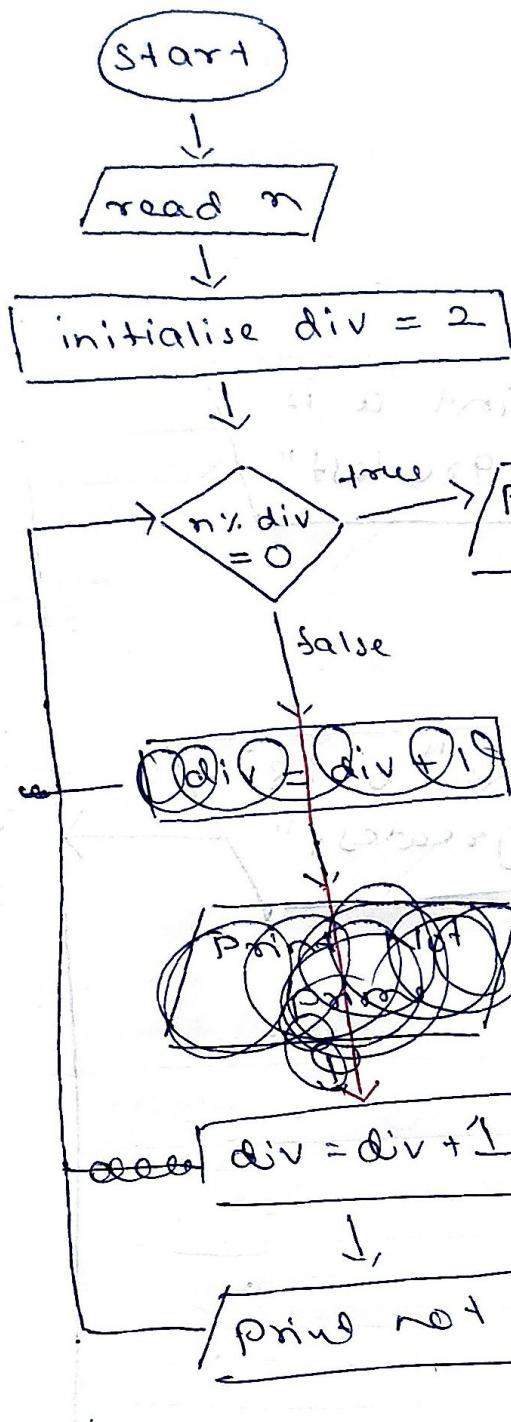
$$n! = n(n-1)(n-2) \dots (1)$$

$$5! = 5(4)(3)(2)(1)$$



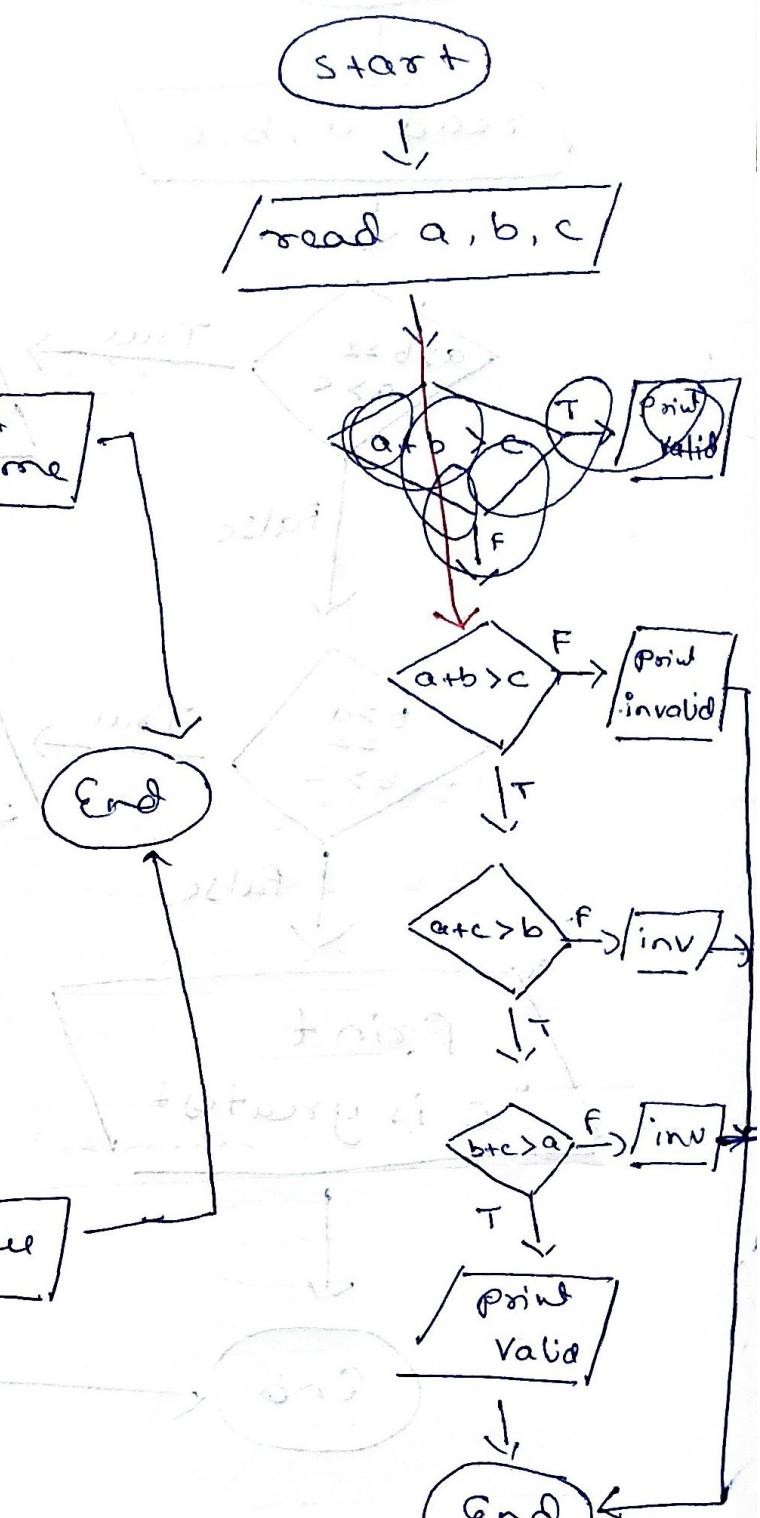
⑦ Prime or not

↳ 1 & itself
 $\% \text{ rem} \rightarrow 0$



⑧ Valid Δ or not

$$\frac{a+b}{c} > c \\ (a+c) > b \\ (b+c) > a$$



Incorrect

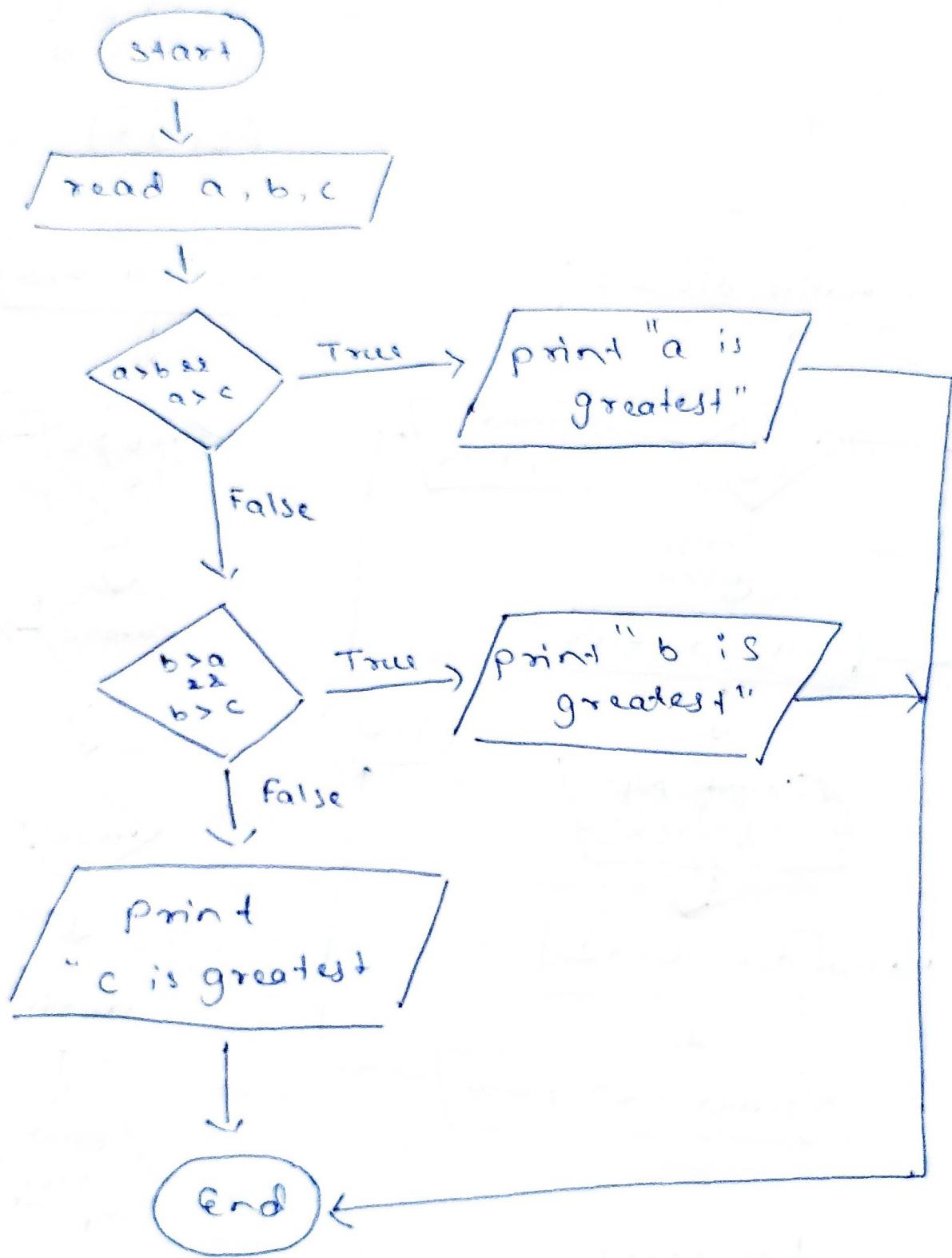
incorrect condition →
 correct condition →
 condition missing →

incorrect → first condition → incorrect but logic
 correct condition → correct but logic
 because if $\text{div} = n$ →
 $n \% \text{div} = 0$ → if self.

corrected
 version

ahead

(9) Max of 3 no



High lvl language \rightarrow Easy to read in terms of human.

low lvl language \rightarrow Machine level \rightarrow difficult for human to understand

medium lvl language \rightarrow In between.

7 Prime or not

