

Pseudocode

✓ PL → Syntax X

→ PL

≡ {

Take code

≡ {

PI

① →

② → Psc {

→ Area of rectangle → Problem

Area = l x b

⑩ →

- 1) Read length & breadth
- 2) Calculate area, $A = \text{length} \times \text{breadth}$
- 3) Print area

It is generic way of writing the code.

1. Sum of N Natural Numbers

Pseudocode

1st way

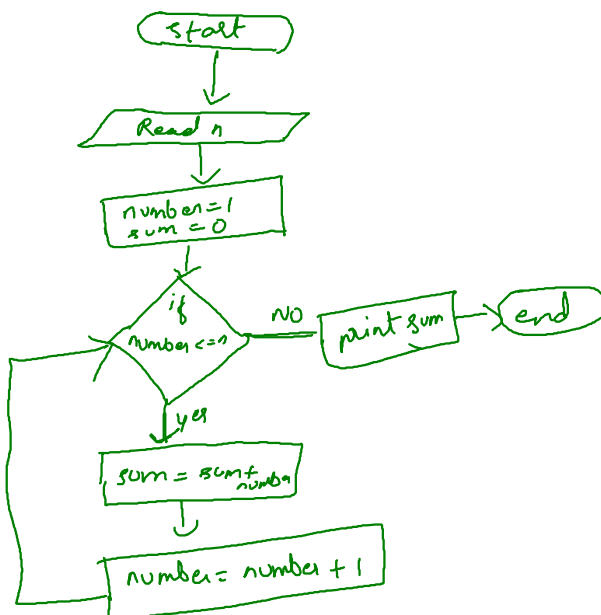
- 1) Start
- 2) Input number n
- 3) Process $\text{sum} = n(n+1)/2$
- 4) Print sum
- 5) end

2nd way

- 1) Start
- 2) Read n
- 3) Set sum to 0
- 4) for each number from 1 to n
Add number to sum
- 5) end for
- 6) Print sum
- 7) end

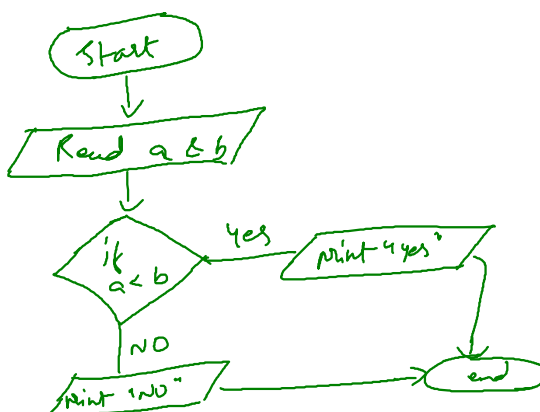
$$\begin{aligned}
 n &= 10 \\
 \Rightarrow 1+2+3+\dots+10 \\
 &= \frac{n(n+1)}{2} \\
 &= \frac{10(10+1)}{2} \\
 &= 55
 \end{aligned}$$

$\text{num} = 1$
 $\text{sum} = 0$
 $n = 5$
 $1 \leq 5 \checkmark$
 $\text{sum} = 0 + 1 = 1$
 $\text{num} = 2$
 $2 \leq 5 \checkmark$
 $\text{sum} = 1 + 2 = 3$
 $\text{num} = 3$
 $\text{num} = 6$
 $6 \leq 5 \times$



2. Check if a < b, if yes print yes else print no

- 1) Start
- 2) Read a & b
- 3) if a < b then
print "yes"
- else
print "no"
- 4) End if
- 5) end



3. [Homework] Find Area of Rectangle

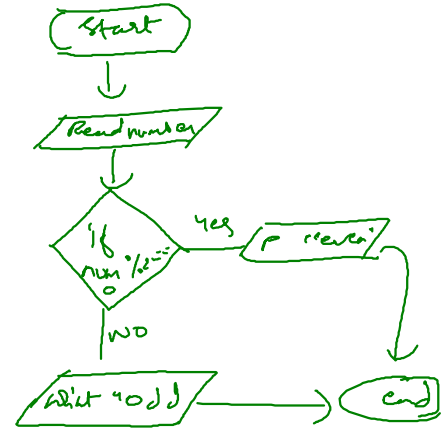
4. Number is Odd or Even

1> start
 2> Read number
 3> if number modulo 2 equal to 0, then
 print "even"
 else
 print "odd"
 4> end if
 5> end

$$2 \div 2 = 0$$

$$2 \% 2 == 0$$

$$3 \div 2 = 0 \times$$



5. Simple Interest Calculation

Homework

$$SI = \frac{PTR}{100}$$

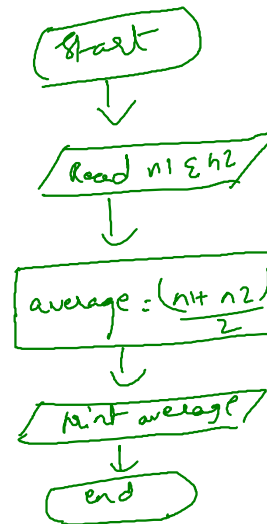
15

→ flow chart

6. Average of Two Numbers

1> start
 2> Read n1 & n2
 3> compute average as $(n1 + n2) / 2$
 4> print average
 5> end

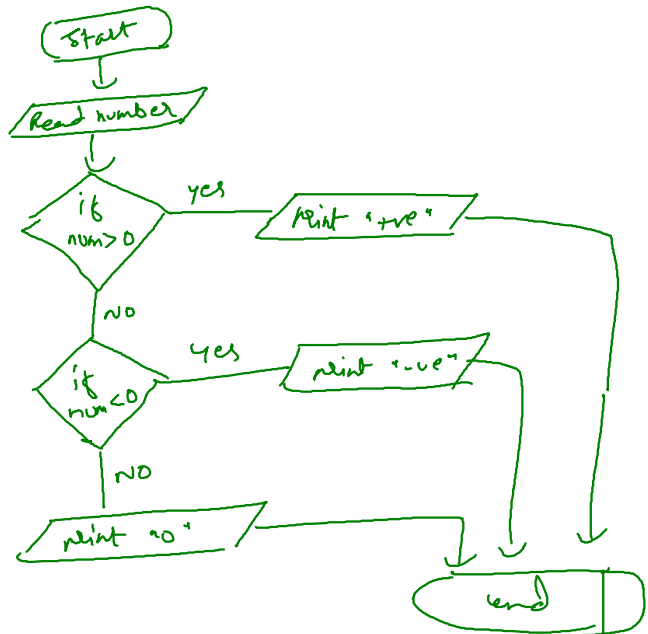
$$\frac{n1 + n2}{2}$$



7. Positive, Negative or Zero

1> start
 2> Read number
 3> if number > 0 then
 print "positive"
 else if number < 0 then
 print "negative"
 else
 print "0"
 4> end if
 5> end

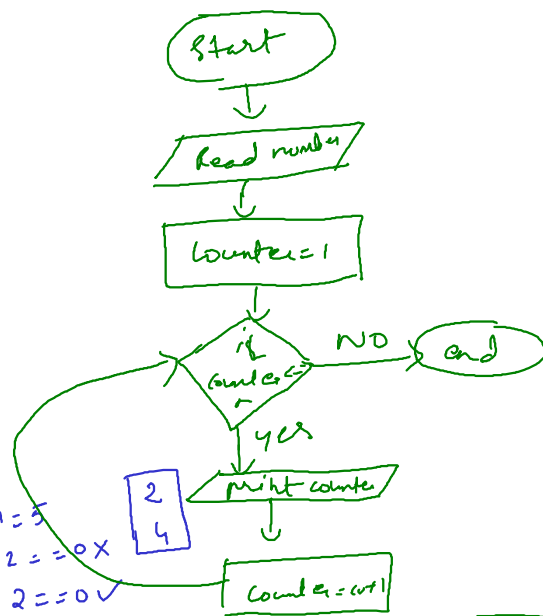
$$-2 < 0 > 1$$



8. Print Numbers from 1 to N

1> start
 2> Read number
 3> for counter from 1 to n
 print counter
 4> end for
 5> end

n=5
 1
 2
 3
 4
 5
 int i



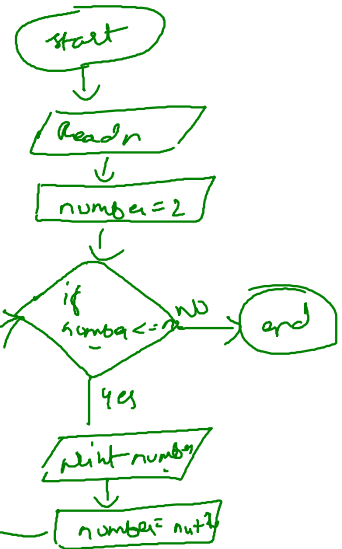
9. Print Even Numbers from 1 to N

1> .
 2> .
 3> .
 4> .
 5> .

if counter modulo 2 == 0 then print counter

n=5
 1%2 = 0 X
 2%2 = 0 V
 3%2 = 0 X
 4%2 = 0 V
 5%2 = 0 X

2
 4



10. [Homework] Check Prime or Not

5 1,
 5
 1, 2, 3, 4, 5
 5%1 = 0
 5%2 ≠ 0
 5%3 ≠ 0
 5%4 ≠ 0
 5%5 = 0
 X

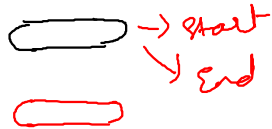
—X—

PS, F, PC
 Home work

Flowchart

Components

1) Terminator



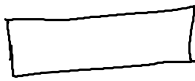
2) Input/output



Read number

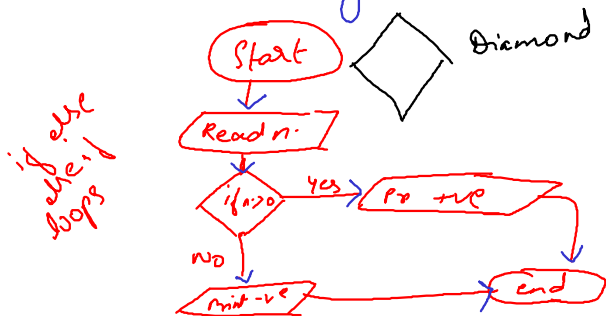
Print "world"

3) Process



sum = a + b

4) Decision making



5) Arrows

