

Q1) Flowchart of even/odd

→ Algorithm :

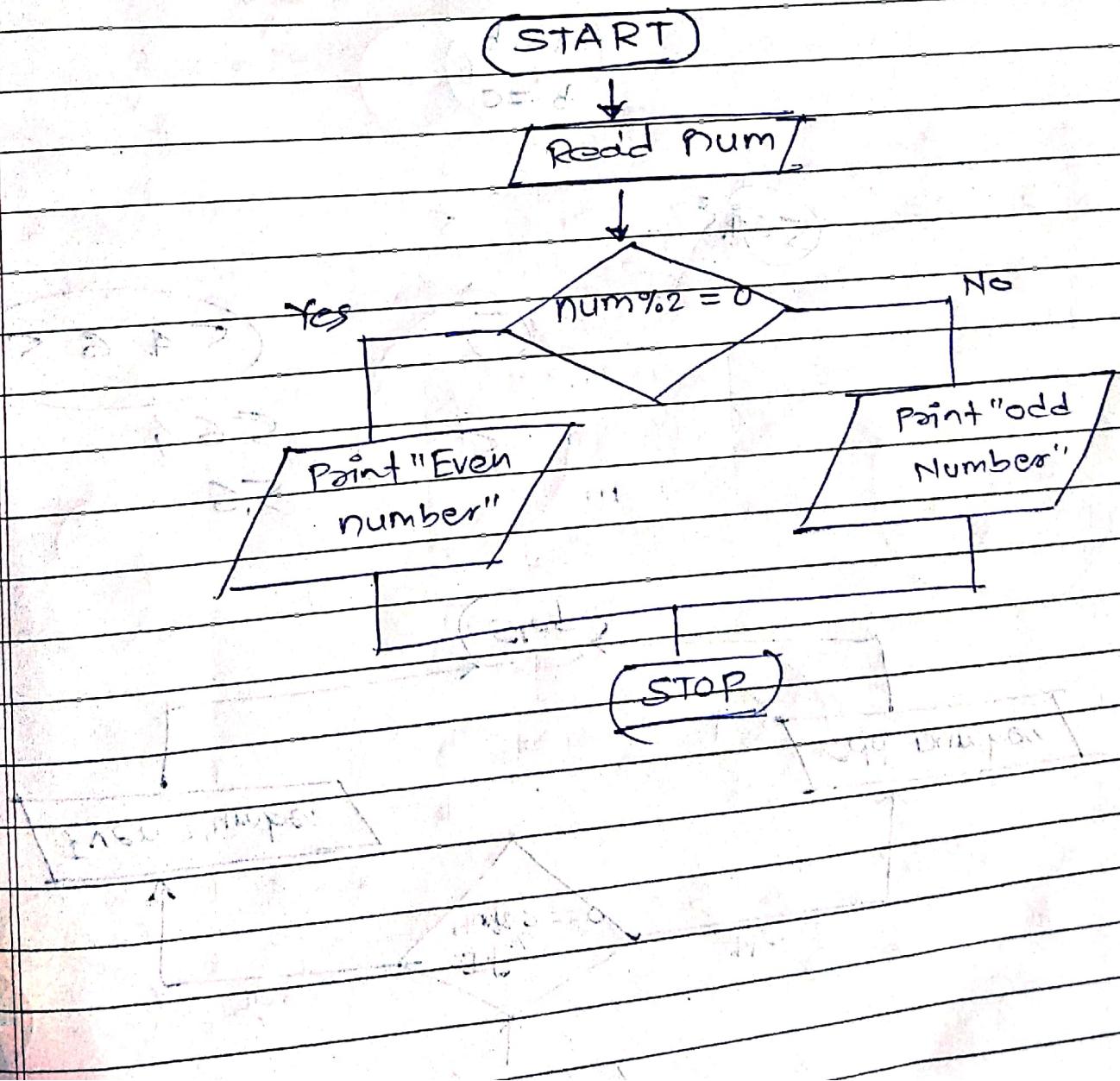
① Start

② Get a number from user num

③ if ($\text{num} \% 2 == 0$) Point Even number

④ else Point odd number

⑤ STOP



Q.2) Factorial of the number

→ Algorithm -

1] START

2] Initialize $f=1$ & $i=1$

3] Get a number from user num

4] Repeat until ($i \leq num$)

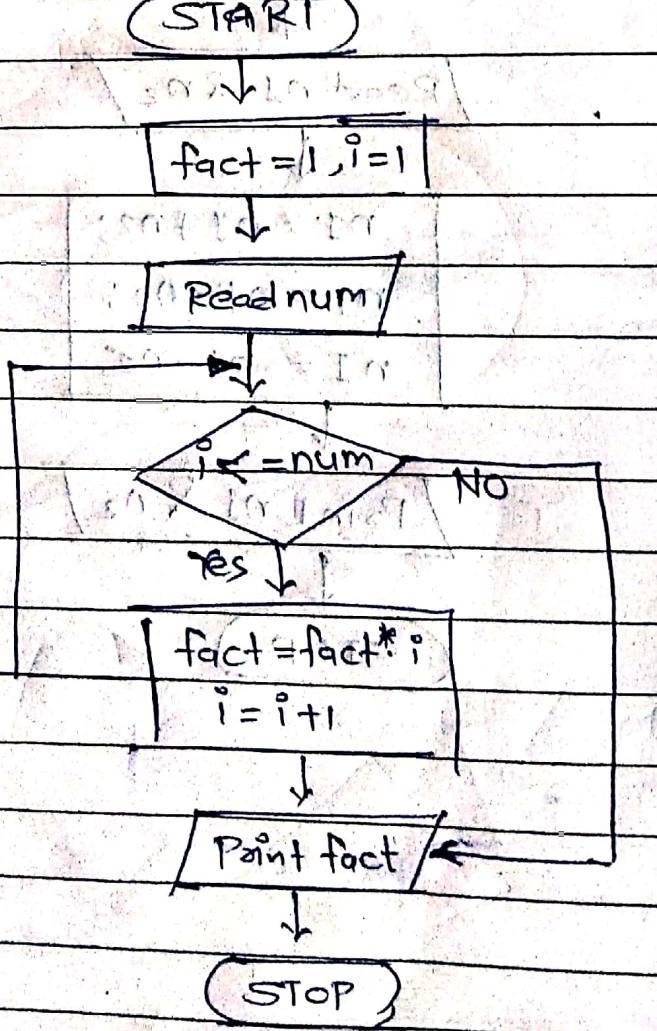
5] $fact = fact * i$

6] $i = i + 1$

7] Print fact

8] STOP

(START)



Q.4] Swap number without using third variable
→

Algorithm

- ① START
- ② Get two numbers from user, n_1 & n_2
- ③ $n_1 = n_1 + n_2$
- ④ $n_2 = n_1 - n_2$
- ⑤ $n_1 = n_1 - n_2$
- ⑥ Print n_1 & n_2
- ⑦ STOP

(START)

|Read n_1 & n_2 |

$n_1 = n_1 + n_2;$

$n_2 = n_1 - n_2;$

$n_1 = n_2 - n_2;$

|Print n_1 & n_2 |

(STOP)

a.5) Number positive or negative



Algorithm

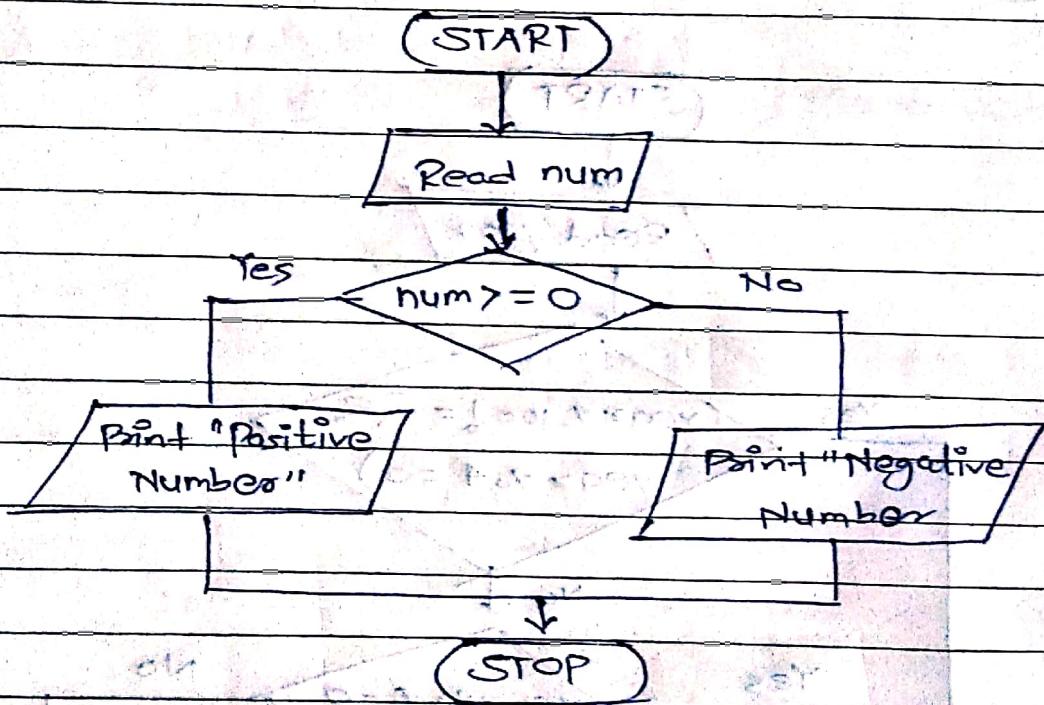
1) START

2) Get a number from user num

3) if ($num >= 0$) Print Positive no.

4) else Print Negative number.

5) STOP



a.6] To find given year is a leap year or not.



Algorithm

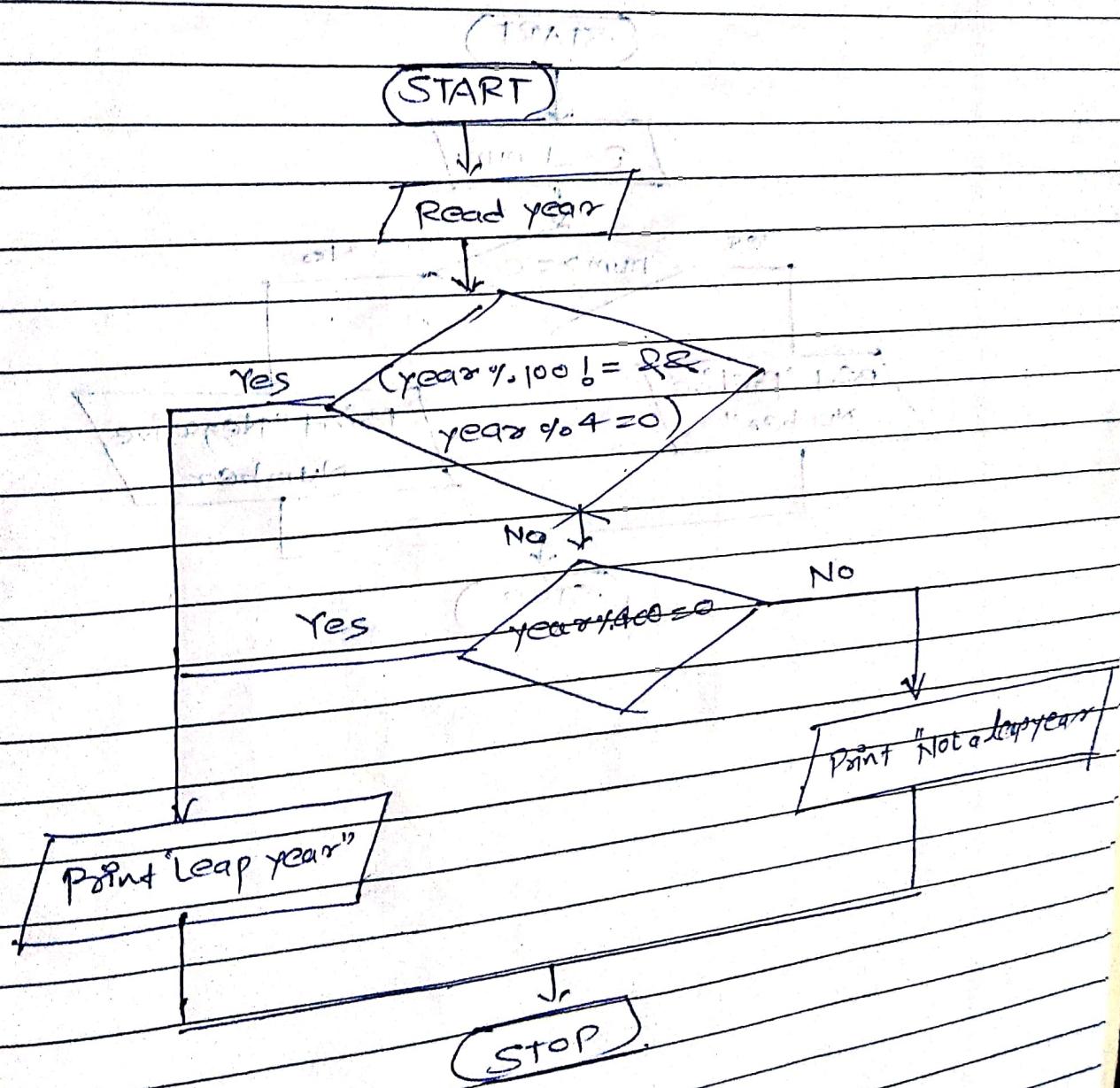
① START

② Get an input from user year.

③ if $(\text{year} \% 100) != 0 \& (\text{year} \% 4 == 0)$
 || $\text{year} \% 400 == 0$ print Leap year.

④ else Print Not a Leap year.

⑤ STOP



Q ⑨

To find factors of a given number



Algorithm

① START

② initialize $i=1$ if $i \leq num$

③ Get a input from user num.

④ check num $\neq 0$ if true print i & increment value of i

⑤ repeat step "4" until $i \leq num$.

⑥ STOP.

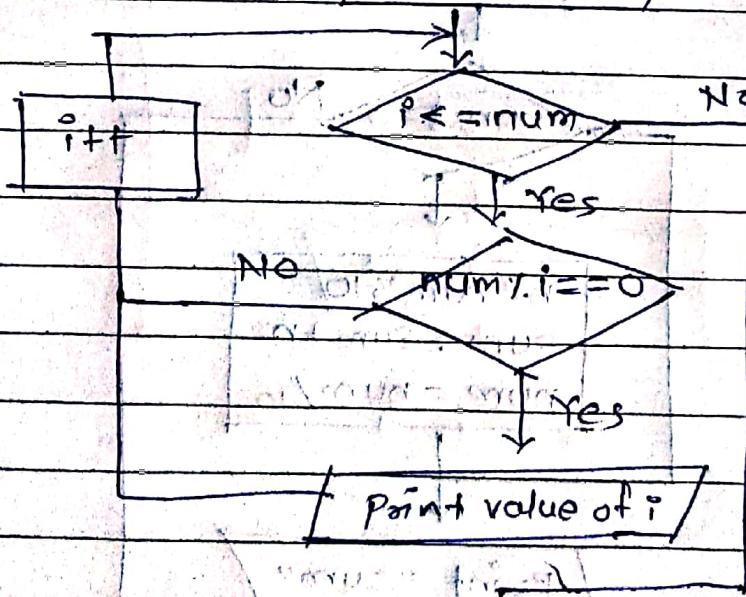
(START)

↓

initialize $i=1$

↓

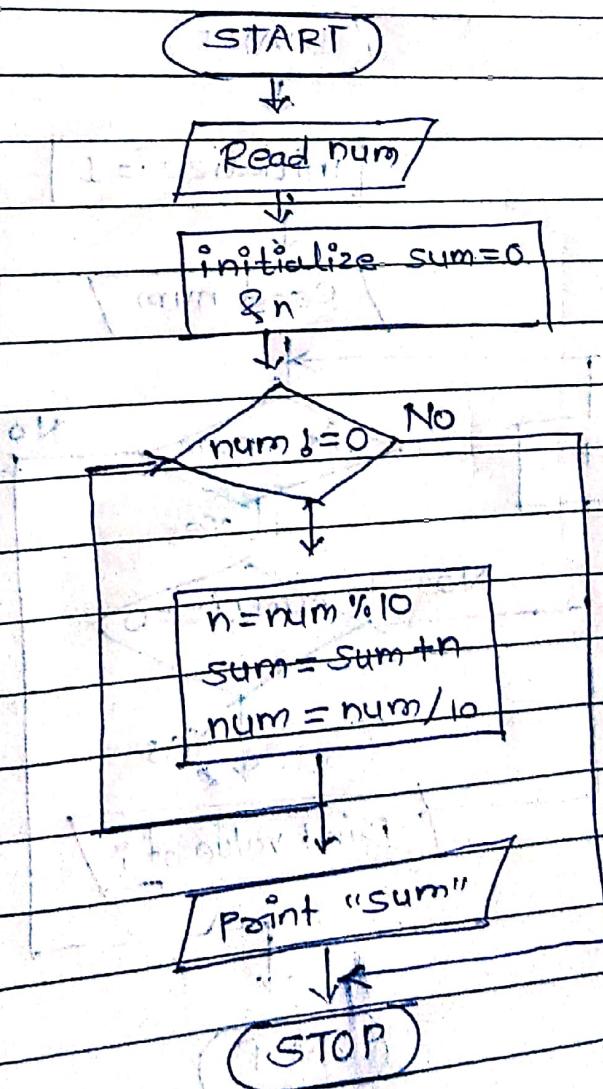
Read num



(STOP)

Q.10] Find sum of the digit of a given number
→ Algorithm:

- 1] START
- 2] Initialize sum=0 & n
- 3] Get a input from user num.
- 4] $n = \text{num} \% 10$
- 5] $\text{sum} = \text{sum} + n$
- 6] $\text{num} = \text{num} / 10$
- 7] repeat step 4, 5 & 6 until $\text{num} \neq 0$
- 8] Print sum
- 9] STOP.



Q) To find smallest of three digit.

→ Algorithm -

1] START

2] Get input from user n_1, n_2 & n_3

3] if ($a < b$ & $a < c$) point a is smallest.

4] if above is false check ($b < c$) point b is smallest.

5] else point c is smallest.

6] STOP

START

Read a, b, c

res

$a < b$ & $a < c$

$b < c$ NO

Point "a" is smallest

Point "b" is smallest

Point "c" is smallest

STOP

Q12] To add two numbers without arithmetic operators.
 → Algorithm:

1] START

2] Get all input from user n_1 & n_2

3] Initialize $i = 1$

4] Check $i \leq n_2$, if true then increment $n_1 + i$

5] increment $i + 1$, above condition false

6] print n_1

7] STOP

START

↓

Read n_1, n_2

$i = 1$
 $i \leq n_2, i + i$

Yes

increment $n_1 + i$

Point " n_1 "

STOP

Q. 13]

To reverse a given number.



Algorithm:

1] START

2] Initialize $rev = 0$ & $digit = 0$

3] Get a input from user num

4] $digit = num \% 10$

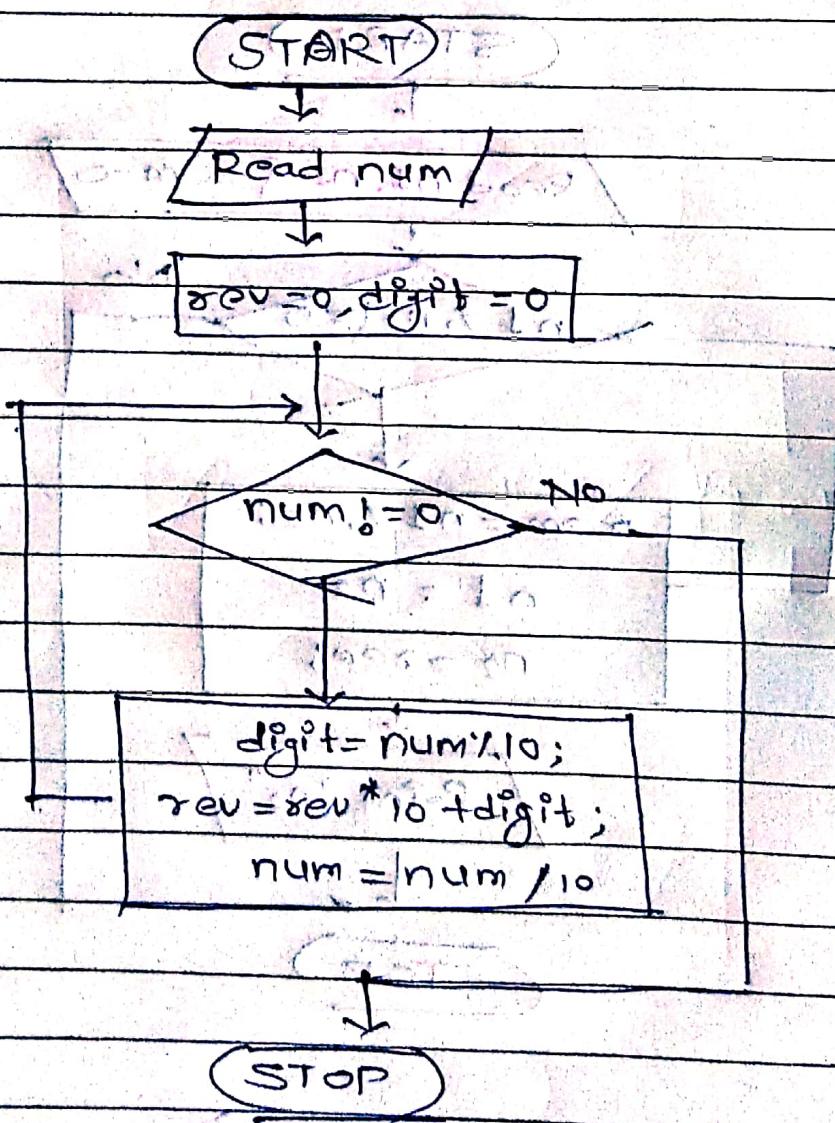
5] $rev = rev * 10 + digit$

6] $num = num / 10$

7] Print rev

8] repeat step 4,5 & 6 until $num \neq 0$

9] STOP.



To find the GCD of two numbers.

Algorithm:

1) START

2) Initialize $\text{rem} = 0$

3) Get two input from user n_1 & n_2

4) $\text{rem} = n_1 \% n_2$

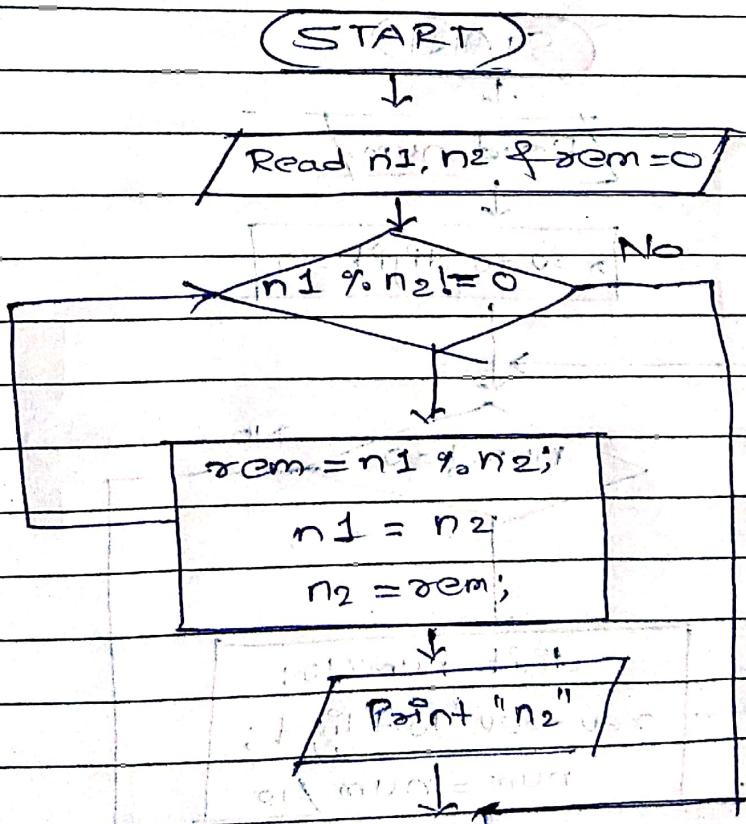
5) $n_1 = n_2$

6) $n_2 = \text{rem}$

7) Repeat step 4, 5 & 6 until $n_1 \& n_2 \neq 0$

8) Print n_2 & exit

9) STOP.



Q.15] To find the LCM of two numbers

→ Algorithm

1] START

2] Initialize $\text{rem} = 0$, $\text{lcm} = 0$, $a \& b$

3] Get two input from user $n_1 \& n_2$

4] Assign $n_1 = a \& n_2 = b$

5] $\text{rem} = a \% b$

6] $a = b$

7] $b = \text{rem}$

8] repeat

9] $\text{lcm} = (n_1 * n_2) / b$

10] Print lcm

11] STOP

