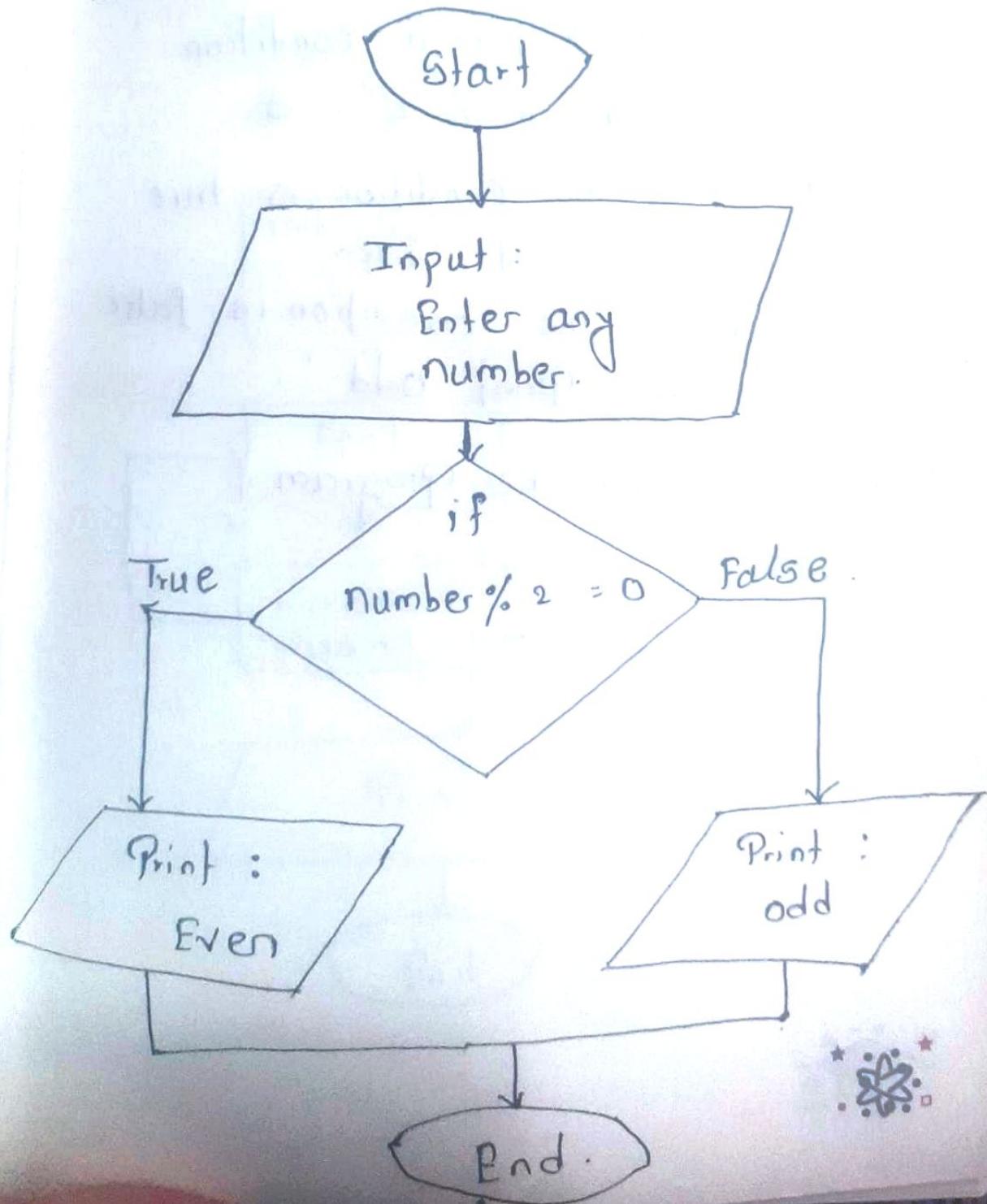


Assignment - 1

Q.1 check if given number is Even or odd.

* flowchart :



* Algorithm :

Step 1 : Start a Program

Step 2 : Take an integer input from
a user num

Step 3 : check for a condition
if $\text{num} \% 2 = 0$

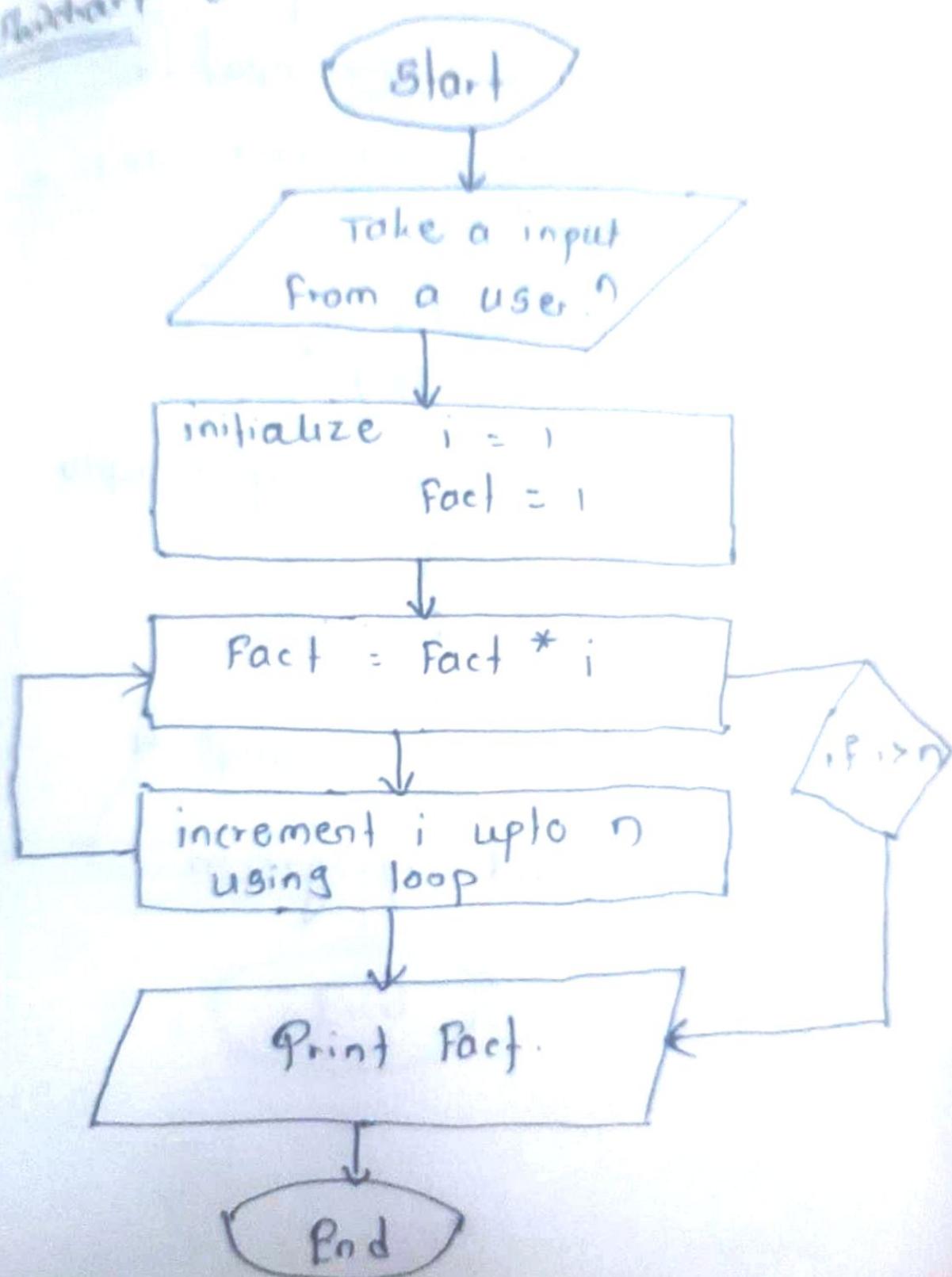
Step 4 : if the condition is true
then print 'Even'.

Step 5 : if the condition is false
then print 'Odd'.

Step 6 : End the Program.

of factorial of a given program :

Richard

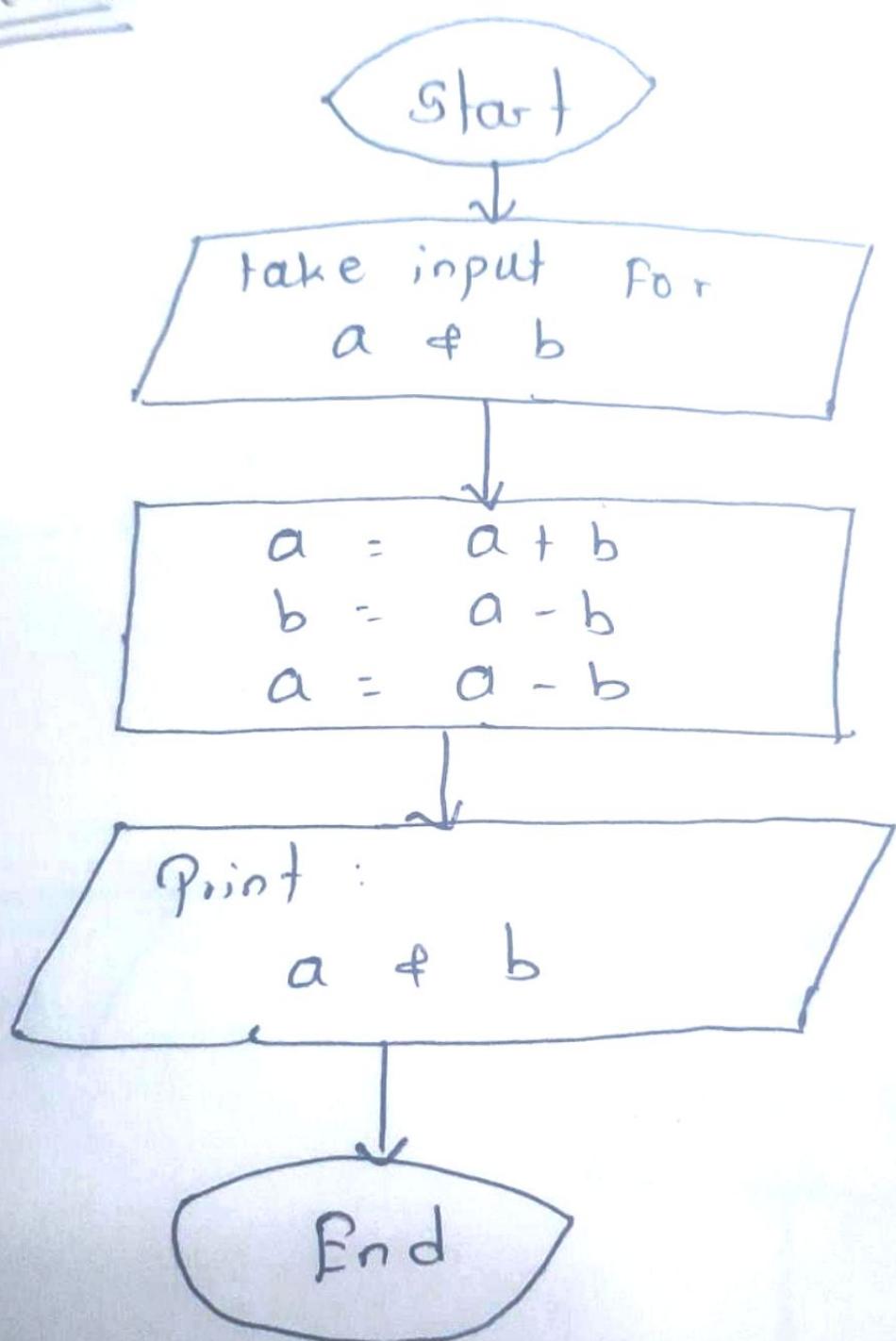


* Algorithm :-

- Step 1 : Start The Program
- Step 2 : Take a user input 'n'
- Step 3 : initialize variables i=1 + Fact = 1
- Step 4 : calculate :
Fact = Fact * i
- Step 5 : increment i by 1 upto n using loop
- Step 6 : check, if i > n
Print Fact
else go to step 4
- Step 7 : End Program.

ii Swap 2 numbers using without 3rd variable
approach

flowchart :

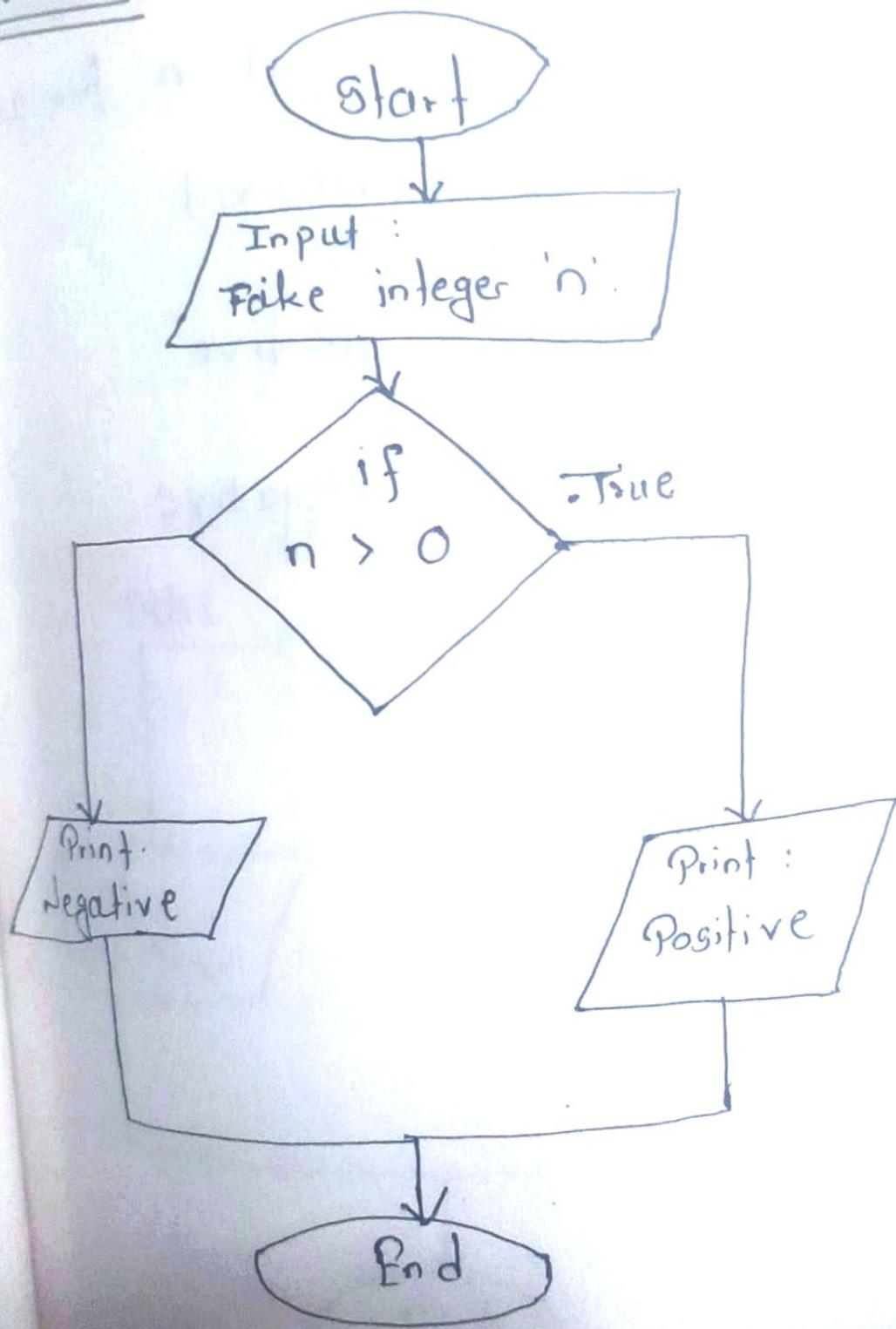


Algorithm :

- Step 1 : Start
- Step 2 : Take user inputs for
a & b
- Step 3 : a = a + b
- Step 4 : b = a - b
- Step 5 : a = a - b
- Step 6 : Print a & b
- Step 7 : End.

5] To check whether number is 'five or -ive.

flowchart 8



Algorithm

Step 1 : Start

Step 2 : take integer input 'n' from user

Step 3 : Condition Statement

if. $n > 0$

Print \rightarrow Positive

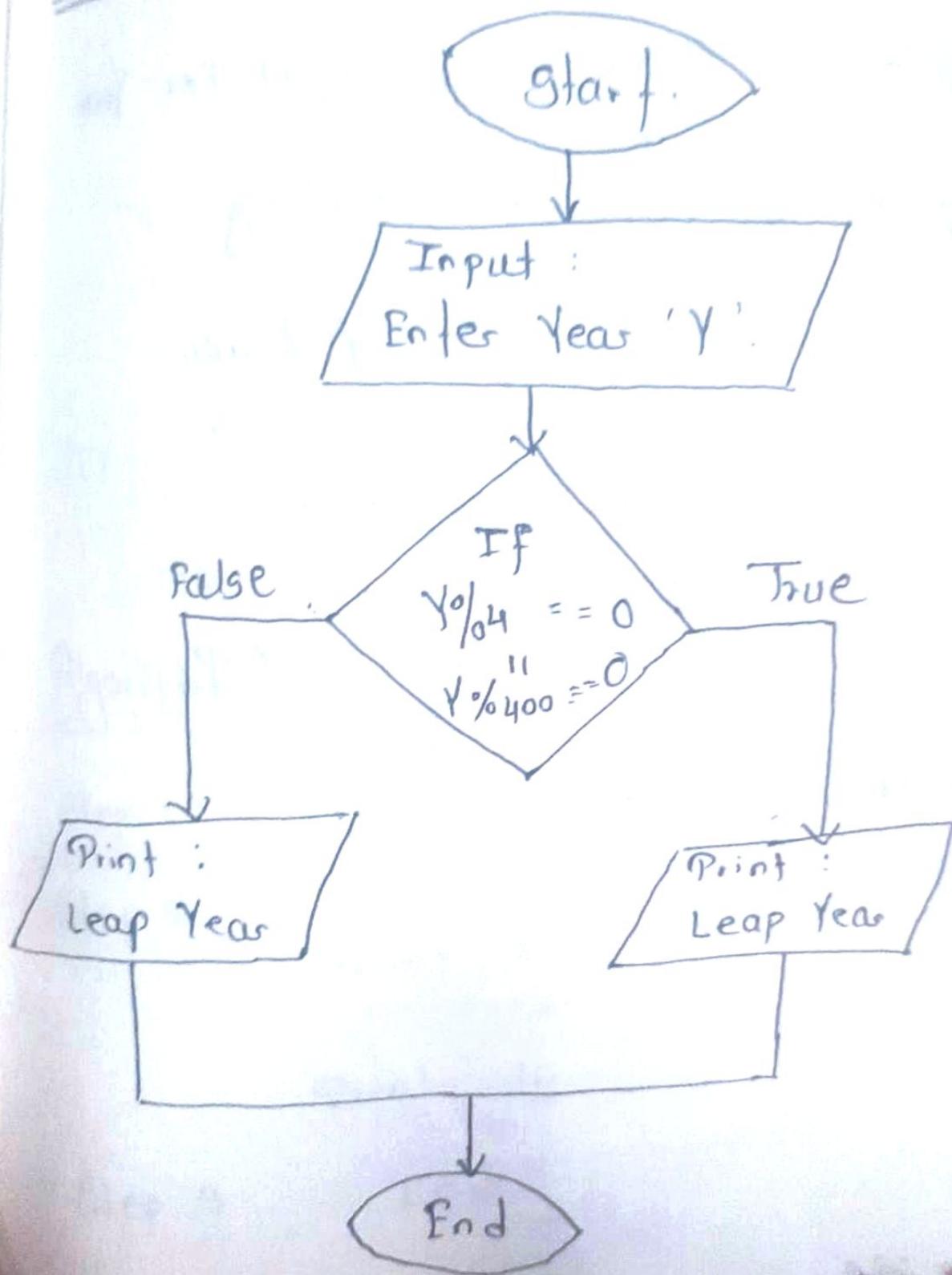
else

Print \rightarrow Negative

Step 4 : End.

6. To check Leap year or not.

flowchart :



Algorithm :

Step 1 : Start

Step 2 : Take integer input for year
'y'

Step 3 : Condition checking:
if.

$$Y \% 4 \quad || \quad Y \% 400 \\ = = 0 \quad \quad \quad = = 0$$

Print : Leap Year

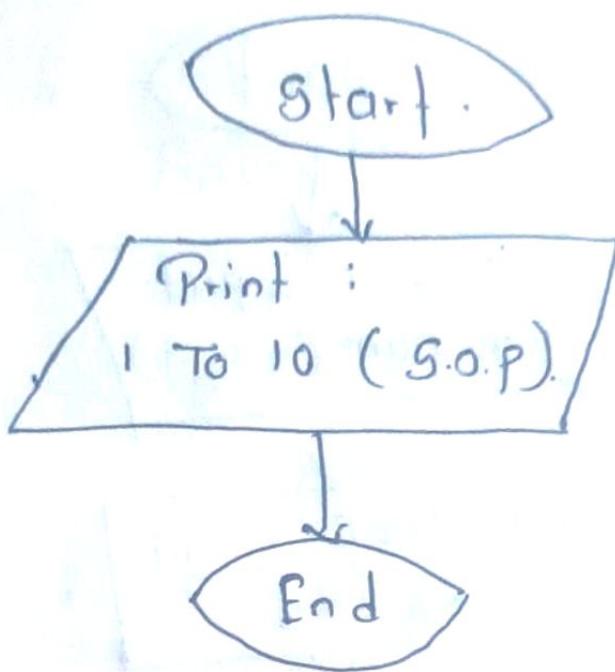
Else.

Print : Not a leap
year.

Step 4 : End.

f. To print 1 to 10 without using loop.

Flowchart :



Algorithm :

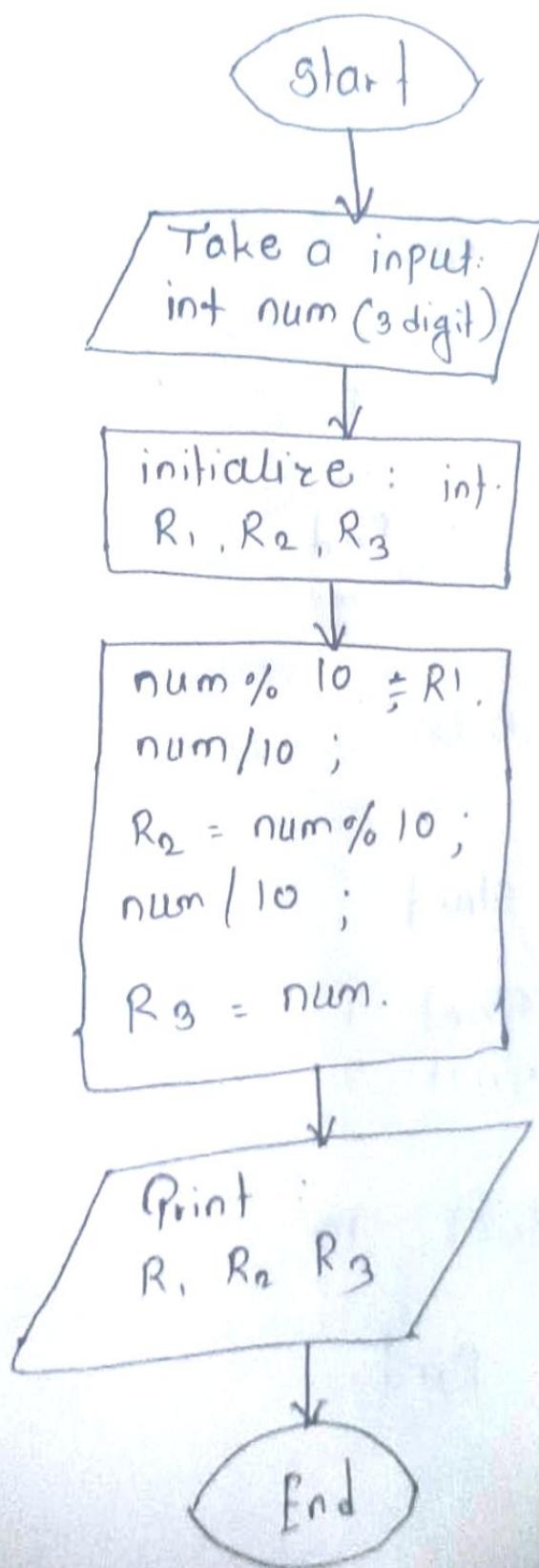
Step 1 : start

Step 2 : Print 1
Print 2
:
Print 10

Step 3 : End.

8. To print digits of given number. ↴

Flowchart :



Algorithm

Step 1 : Start

Step 2 : Take an integer input
From user. (num)

Step 3 : initialize 3 variables
 R_1, R_2, R_3 to store
3 ~~variables~~ Reminders

Step 4 : $num \% 10 = R_1$

$num / 10 ;$

$R_2 = num \% 2$

$num / 10 ;$

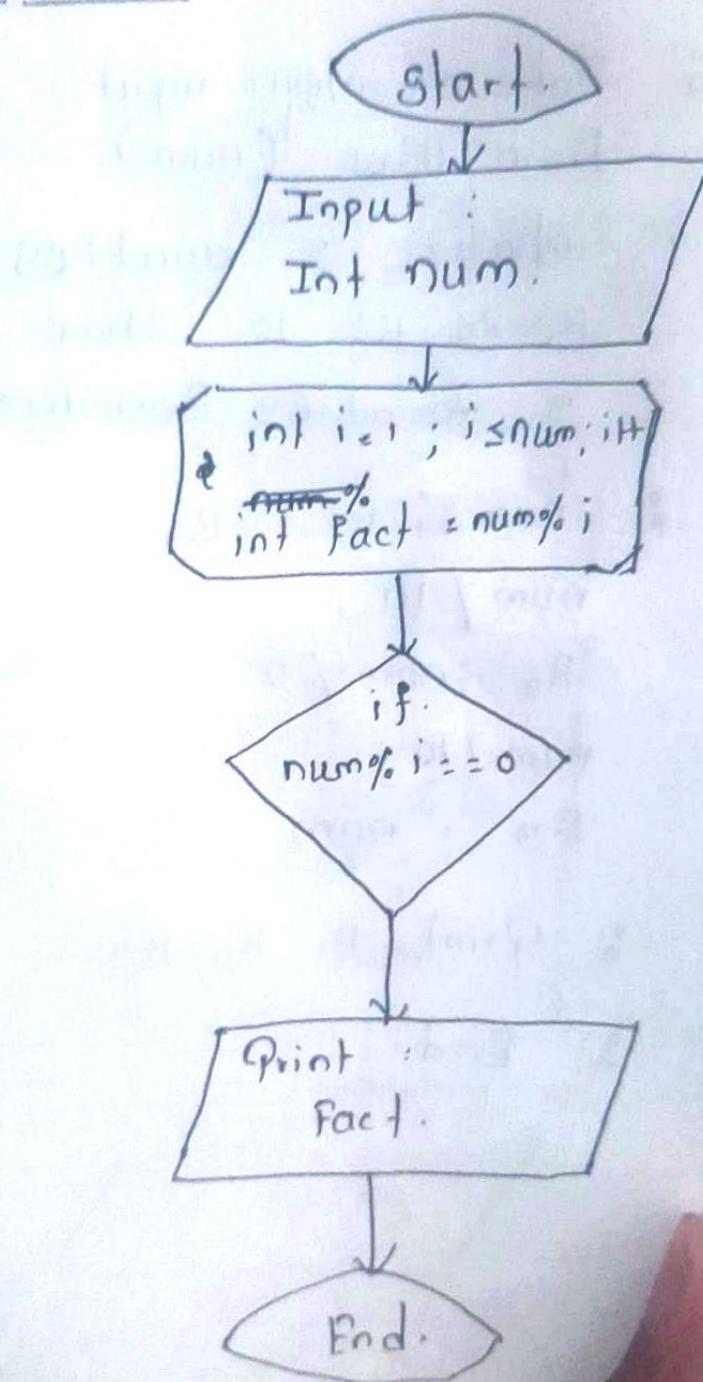
$R_3 = num .$

Step 5 : Print R_1, R_2, R_3

Step 6 : End.

g. To print factors of given num.

Flow chart :



b.

Algorithm

Step 1 : Start

Step 2 : Take an integer input num

Step 3 : Initialize variable $i = 1$
~~if~~ declare a Fact.

Step 4 : Fact = num % i

Step 5 : if
 Fact == 0 ;

 Print fact.

Step 6 : increment i by 1, upto num

Step 7 : ~~if~~ if $i > num$,

 End .

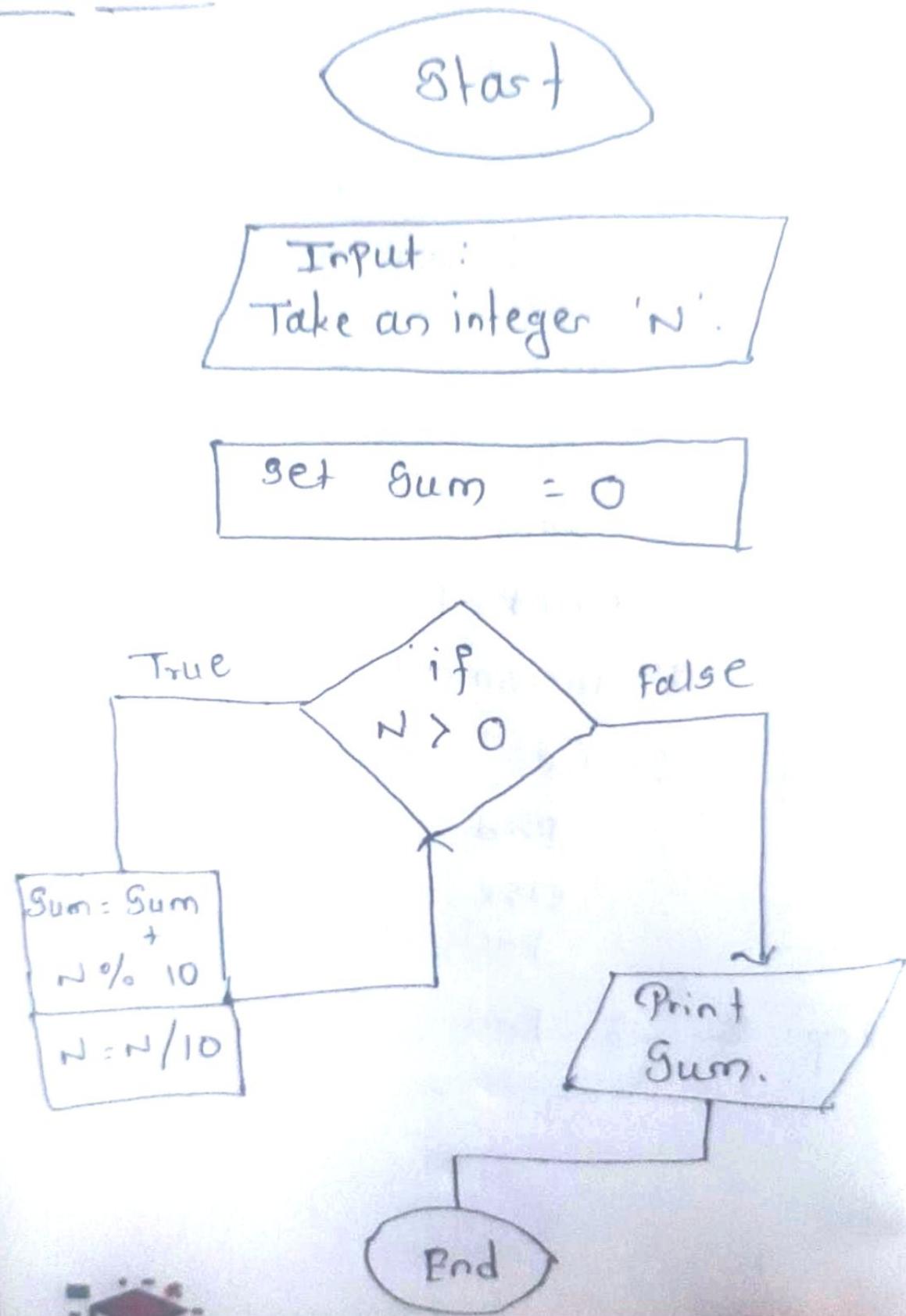
 else

 back to step 4

Step 8 : End .

10. Sum of digits of given number.

Flowchart 8



Algorithm

Step 1 : Start

Step 2 : Take an integer input N

Step 3 : Initialize int sum = 0

Step 4 : if $N > 0$

Step 5 : compute

$$\text{sum} = \text{sum} + N \% 10$$

$$N = N / 10$$

Step 6 : Go back to 4

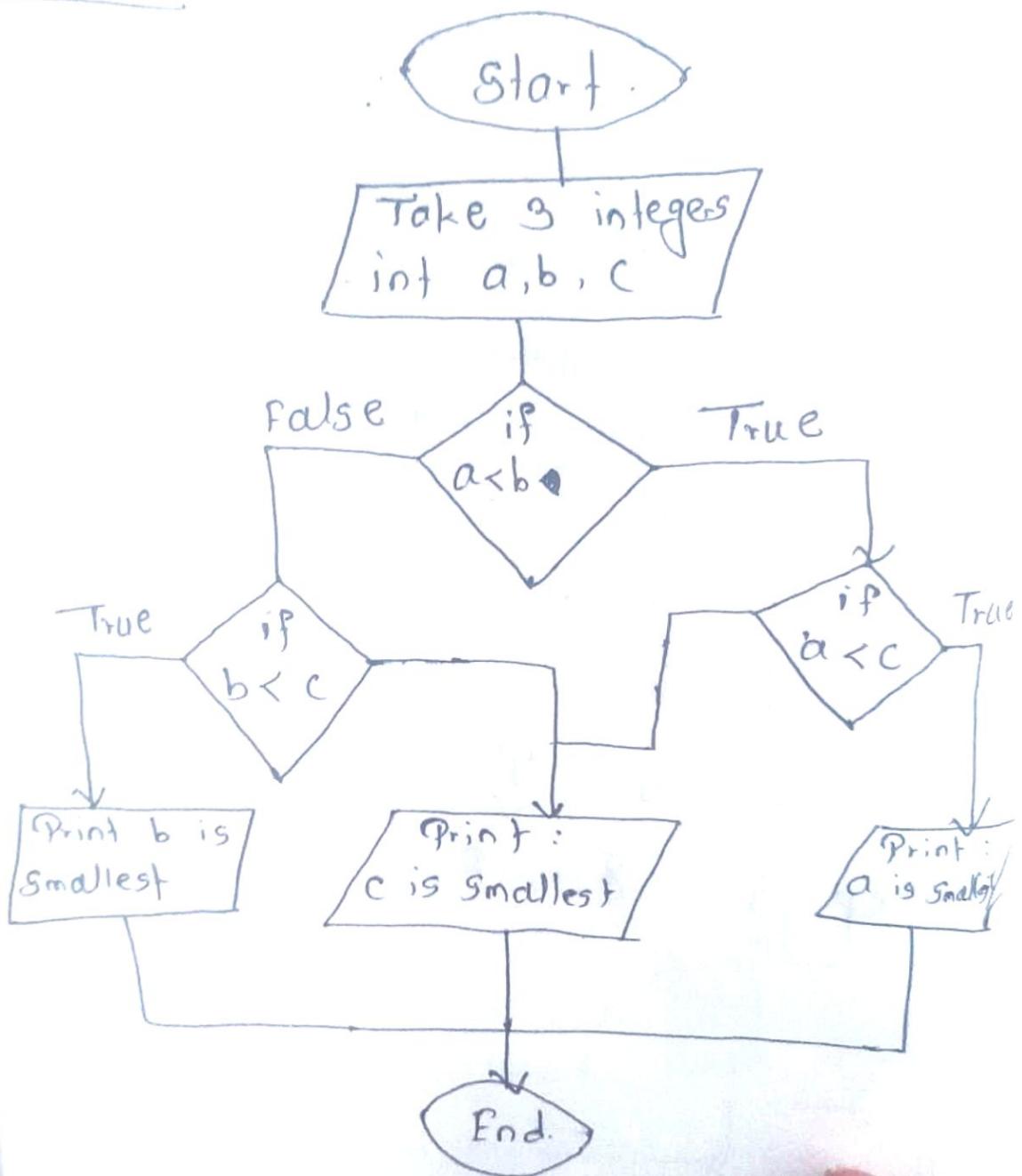
Step 7 : if step 4 is false

Step 8 : Print sum

Step 9 : End.

11. To find Smallest of 3 numbers.

Flowchart :



Algorithm

Step 1 : Start

Step 2 : Take 3 integer inputs
a, b, c.

Step 3 : check for .

$$a < b$$

if true

if false

- check for

$$a < c$$

if true

check for

$$b < c$$

if true

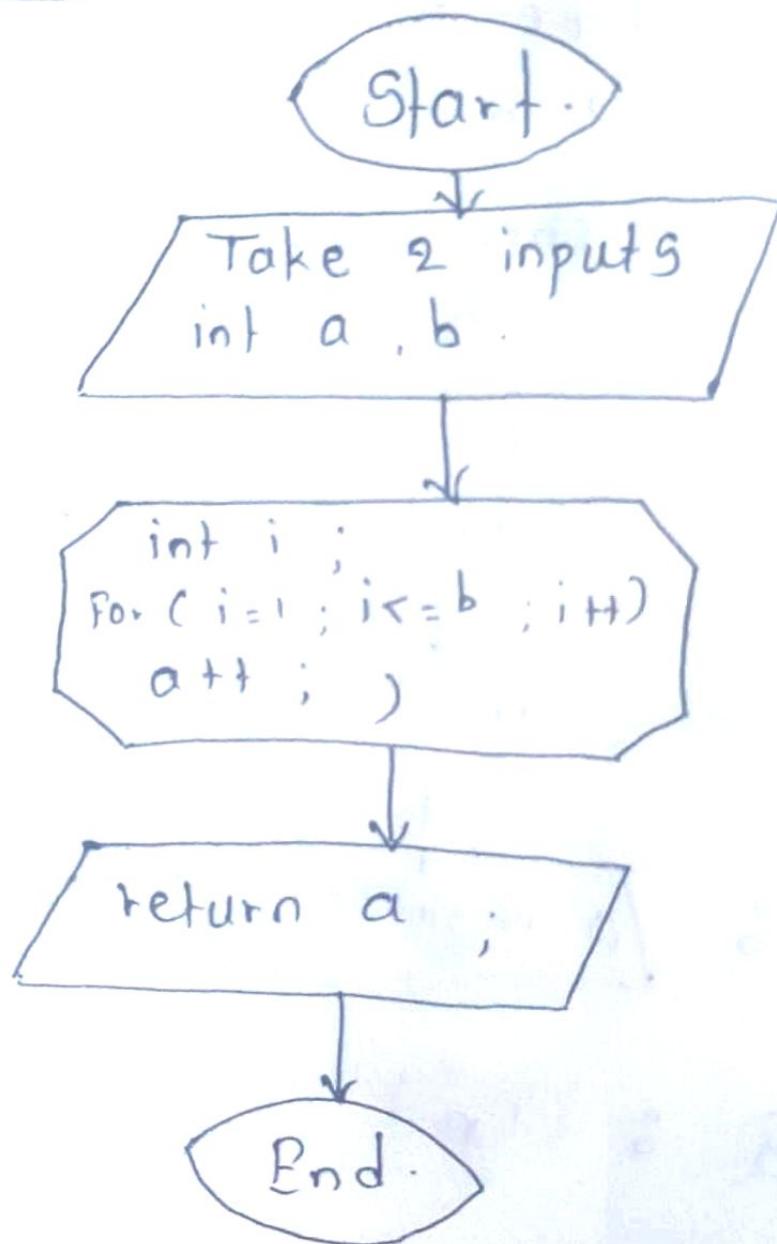
if false

Step 4 : $a \text{ is smallest}$ $c \text{ is smallest}$ $b \text{ is smallest}$

Step 5 : End

12. Addition without using Arithmatic operator.

Flowchart :-



4(c)

Algorithm

Step 1 : Start

Step 2 : Take 2 integers input
a, b

Step 3 : initializing another variable i

Step 4 : using For loop

- increment 'a' upto b
(by 1)

Step 5 : increment i upto b.

Step 6 : if $i > b$

return a

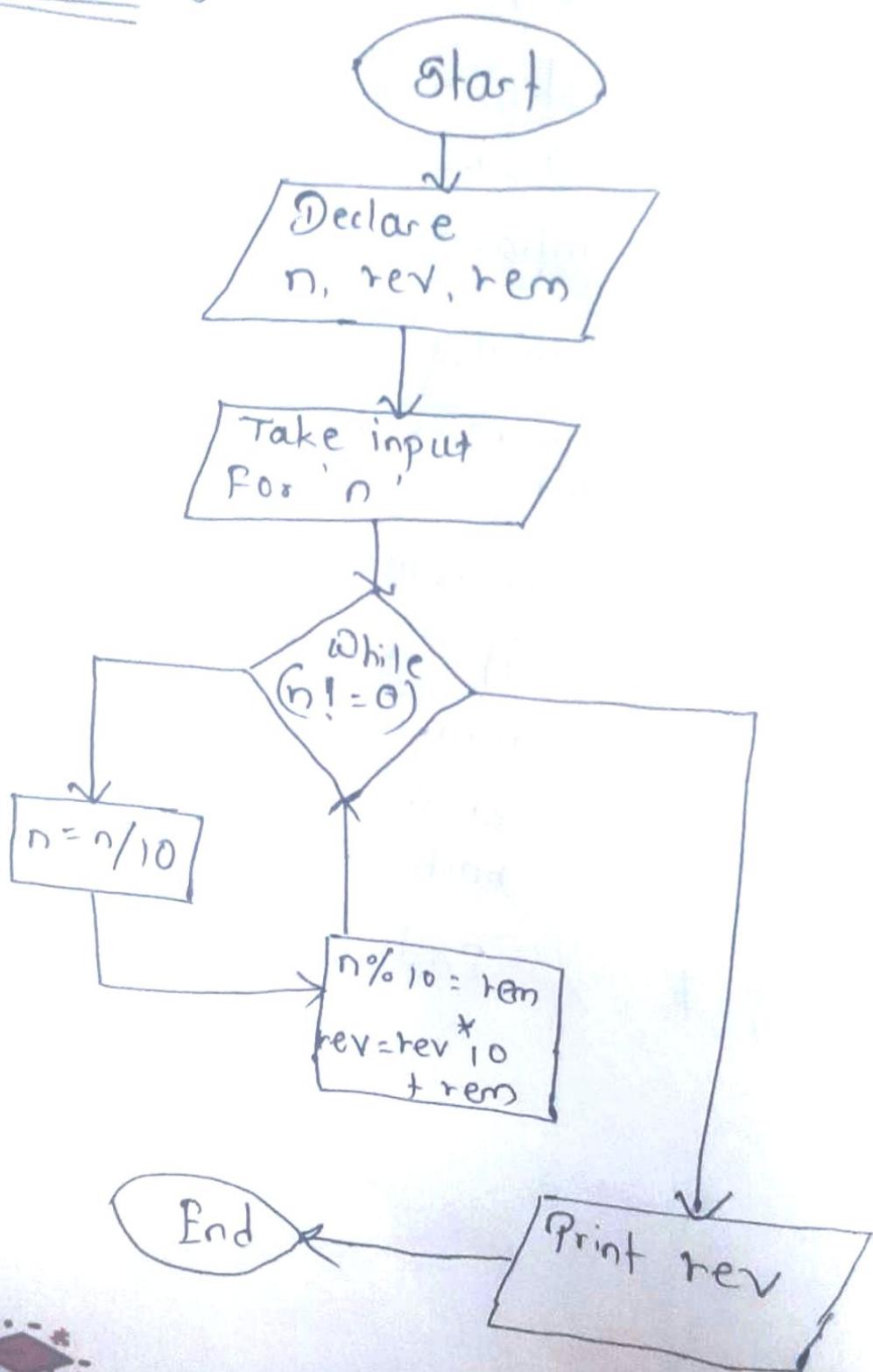
else ..

back to step 4

Step 7 : End.

18. Program to reverse a number

Flowchart :



Algor

Step

Step

Step

Step 5

5)

5)

Step

5)

Algorithm

Step 1 : Start

Step 2 : Declaring 3 variables
n, rev & rem

Step 3 : Taking user inputs
For n

Step 4 : checking for
 $n \neq 0$.

Step 5 : if true .

$$n = n / 10$$

$$\text{rem} = n \% 10$$

$$\text{rev} = \text{rev} * 10 + \text{rem}$$

Step 6 : Back to step 4

Step 7 : Print rev

Step 8 : End.

14. To find GCD of two numbers

Flowchart :-

Algorithm

Step 1

Step 2

Step 3

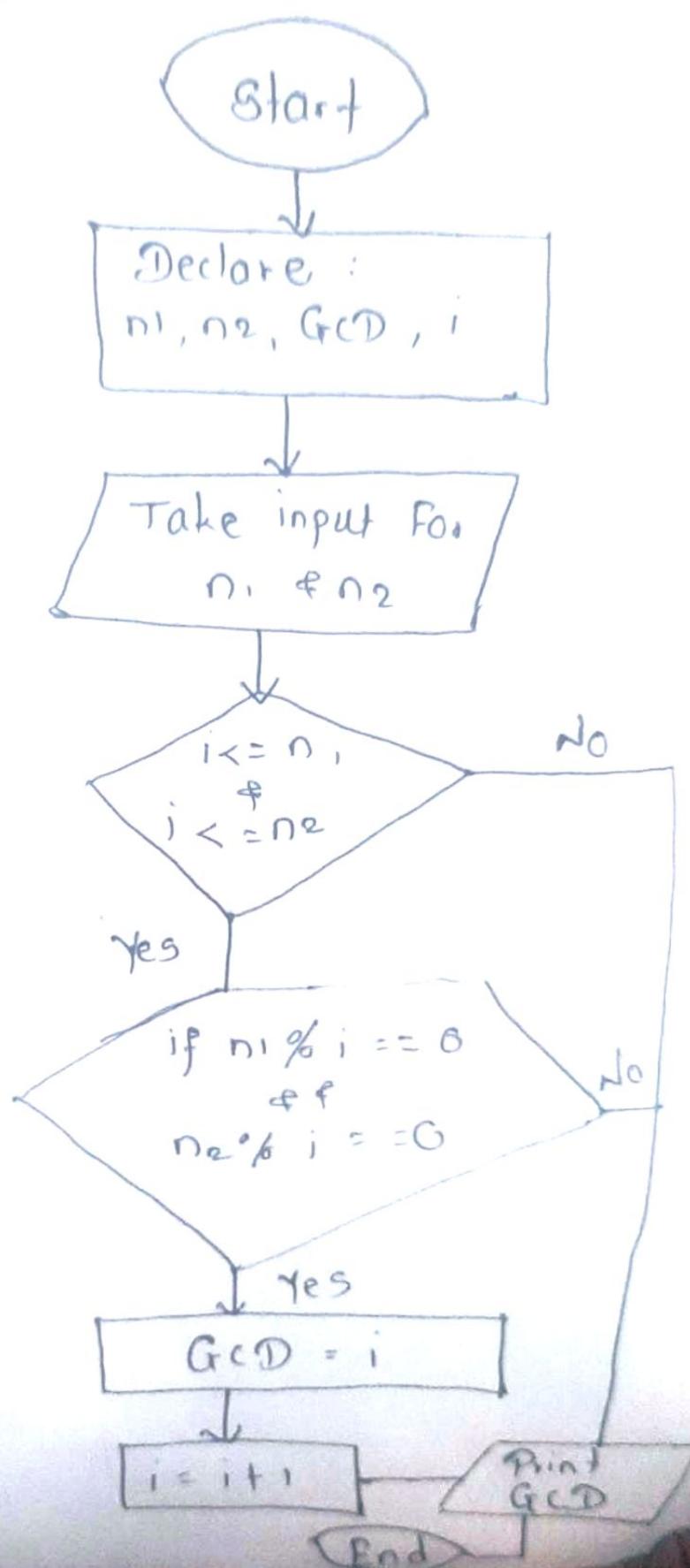
Step 4

Step 5

Step 6

Step 7

Step 8



members

Algorithm :-

Step 1 : Start

Step 2 : Declare 4 Variables
 n_1, n_2, GCD, i

Step 3 : Take inputs for n_1 & n_2

Step 4 : check if ~~False~~
 $i \leq n_1$
 $i \neq n_2$

Step 5 : if True if False

again check if

$n_1 \% i == 0$

$n_2 \% i == 0$

Step 6 : if true

$GCD = i$

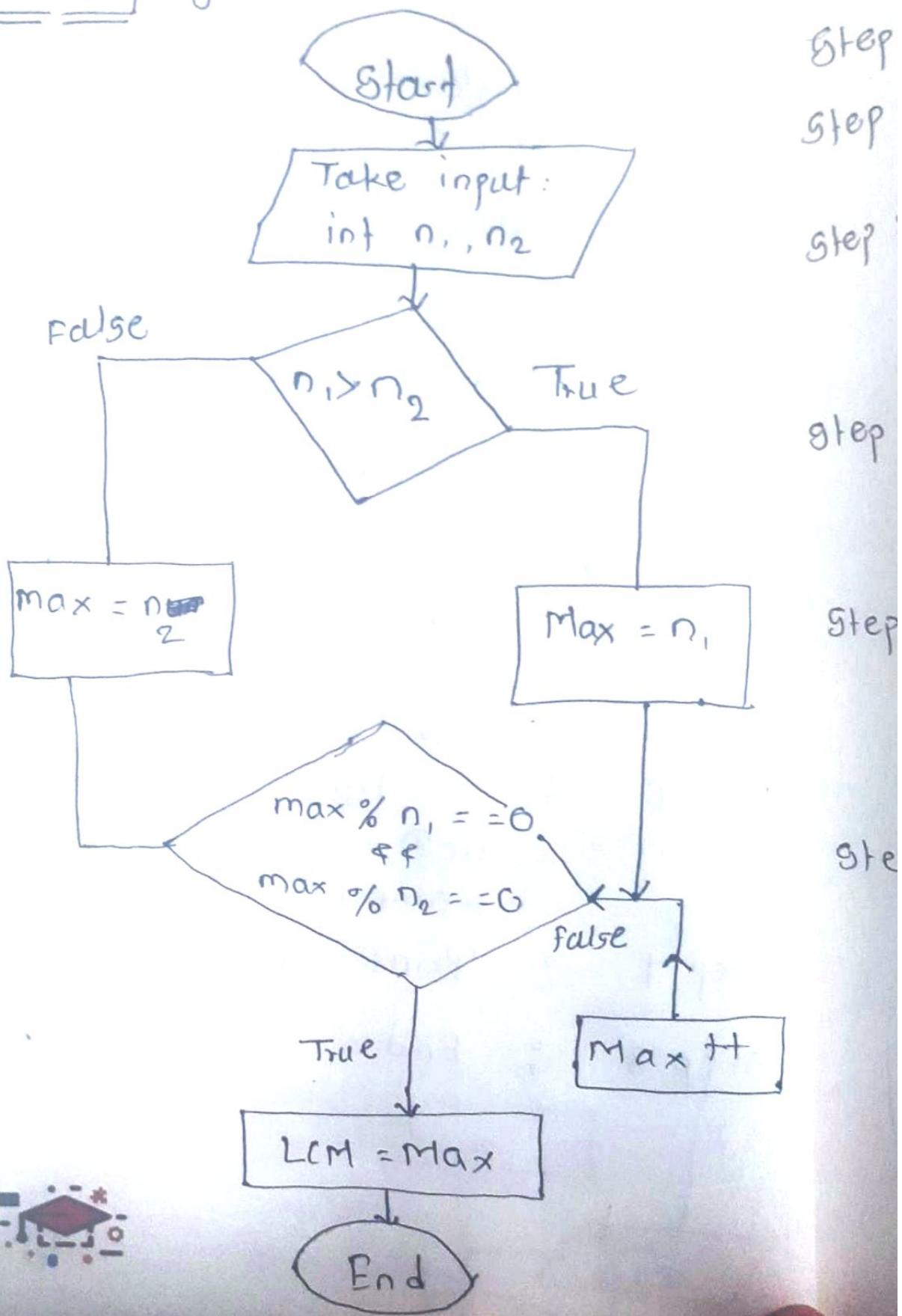
increment i

Step 7 : Print GCD

Step 8 : End.

15. LCM of two given numbers

Flowchart



Algorithm

Step 1 : Start .

Step 2 : Integer input from user
 n_1, n_2 & Max

Step 3 : assign maximum value
betw n_1 & n_2 to Max
variable .

Step 4 : $\text{Max \% } n_1 = 0$
 $\text{if } \neq 0$
 $\text{Max \% } n_2 = 0$

} check if

Step 5 : if true
- Print .
Max as LCM

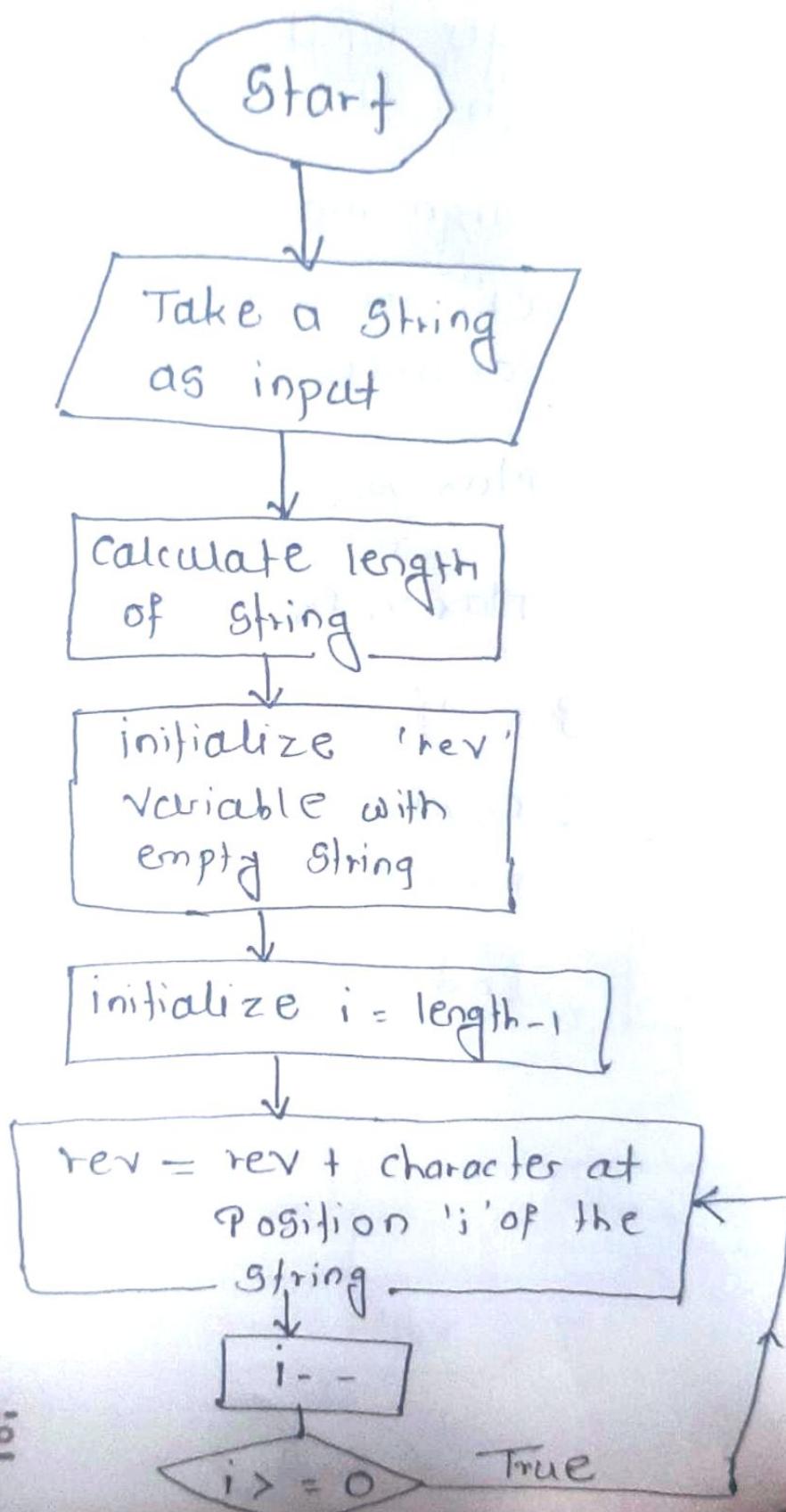
if false
- Max ++
- Repeat from
step 4 .

Step 6 : End .

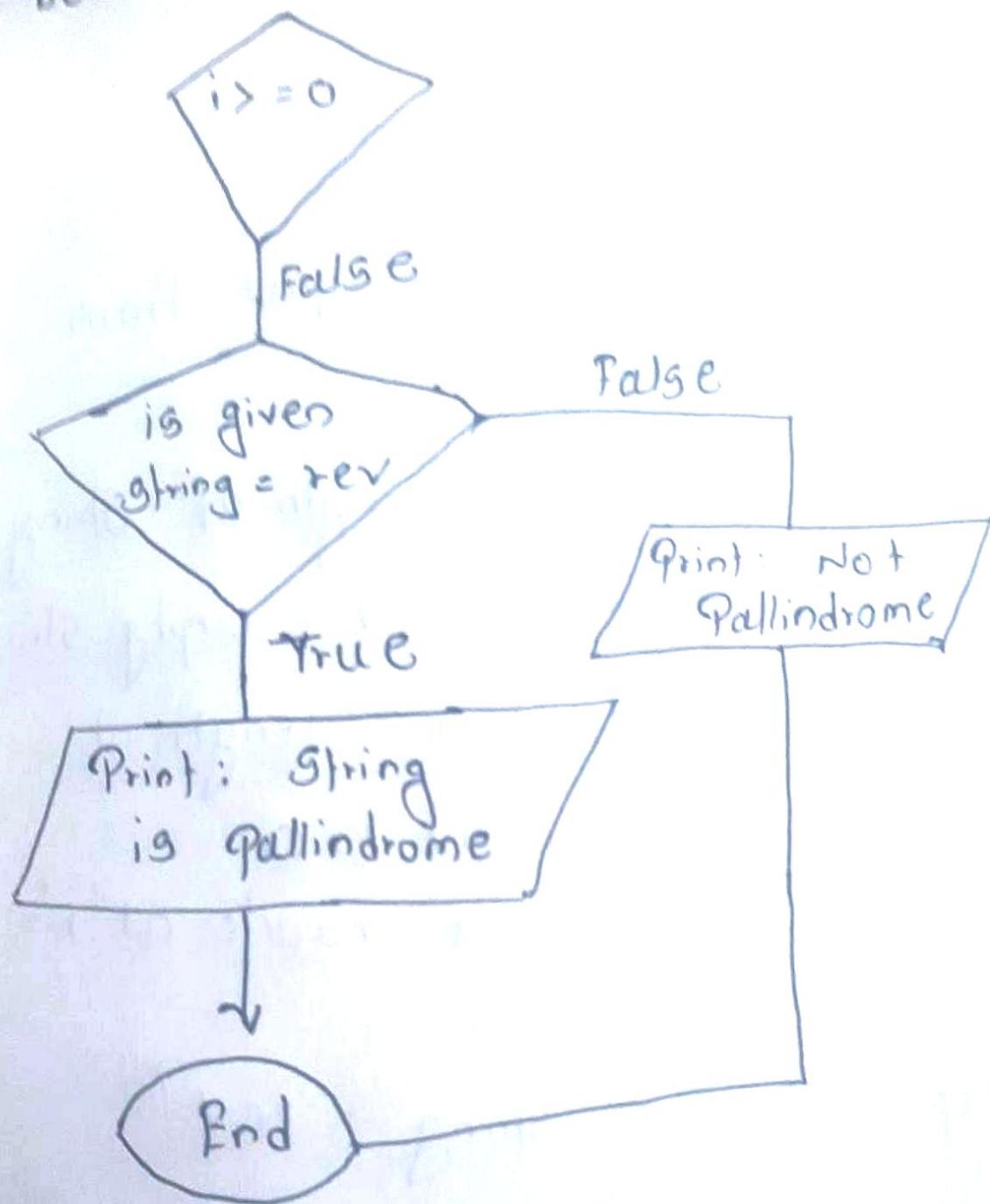
17. To check Palindrome or Not.

To

Flowchart 8



To be Continued:



Algorithm :-

Step 1 : Start

Step 2 : Take string input from user.

Step 3 : Calculate length of string.

Step 4 : Initialize rev = empty string.

Step 5 : Initialize i = length - 1

Step 6 : Repeat until i > 0

 rev = rev + character at "i".

 i = i - - ;

Step 7 : if string = rev;

 Print ;

 " string is palindrome "

 else :

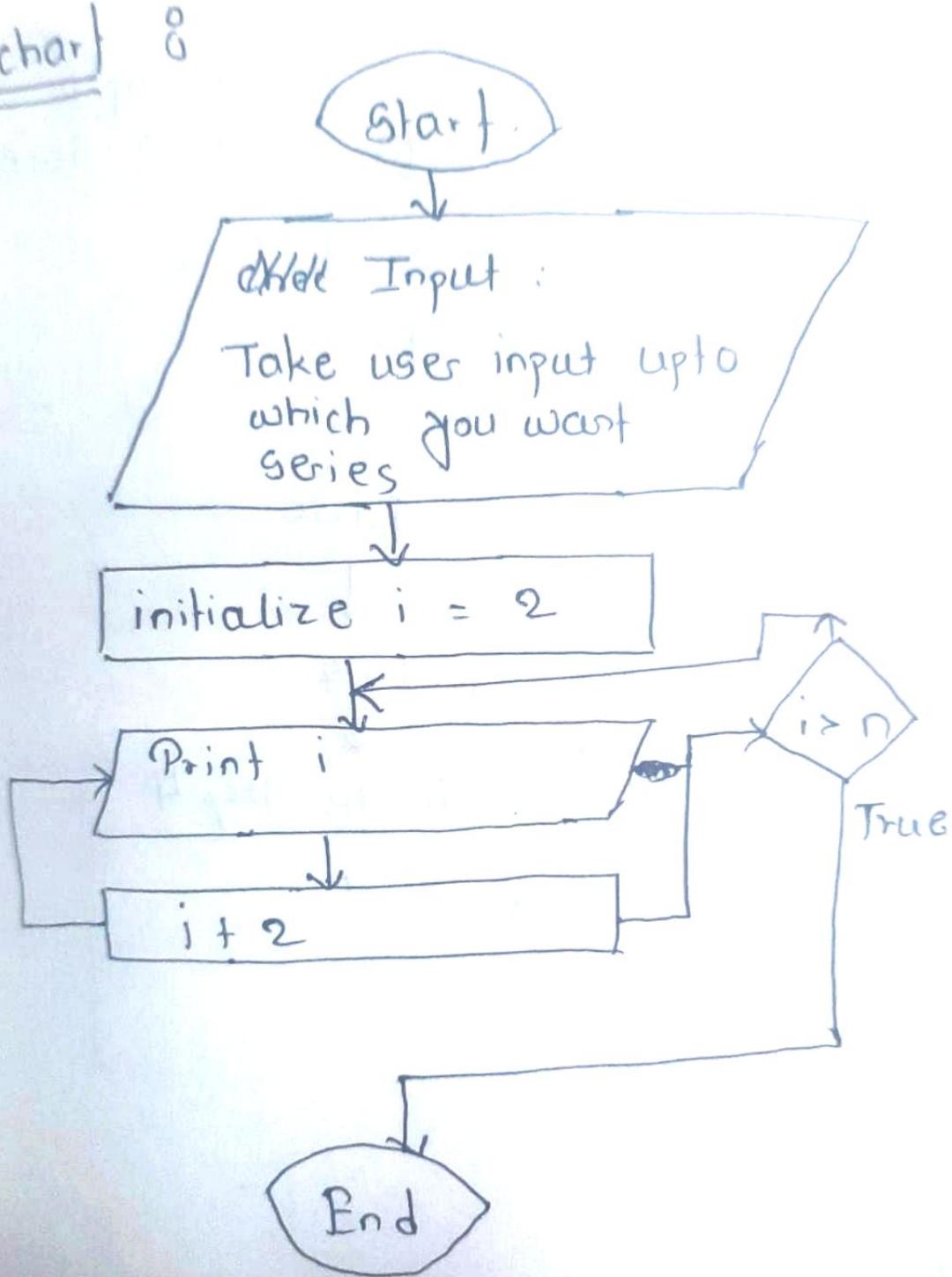
 Print :

 " Not palindrome "

Step 8 : End.

19. To print Series of even numbers
2 4 6 8 10 ...

flowchart



Algorithm

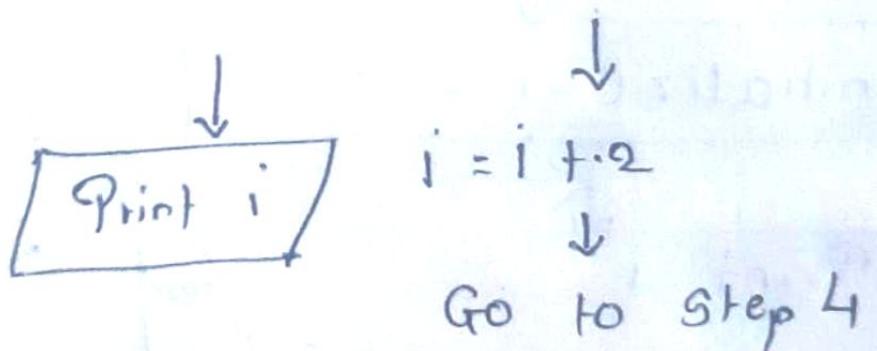
Step 1 : Start

Step 2 : Take user input upto
which you want a series

Step 3 : Initialize $i = 2$

Step 4 : check if
 $i > N$

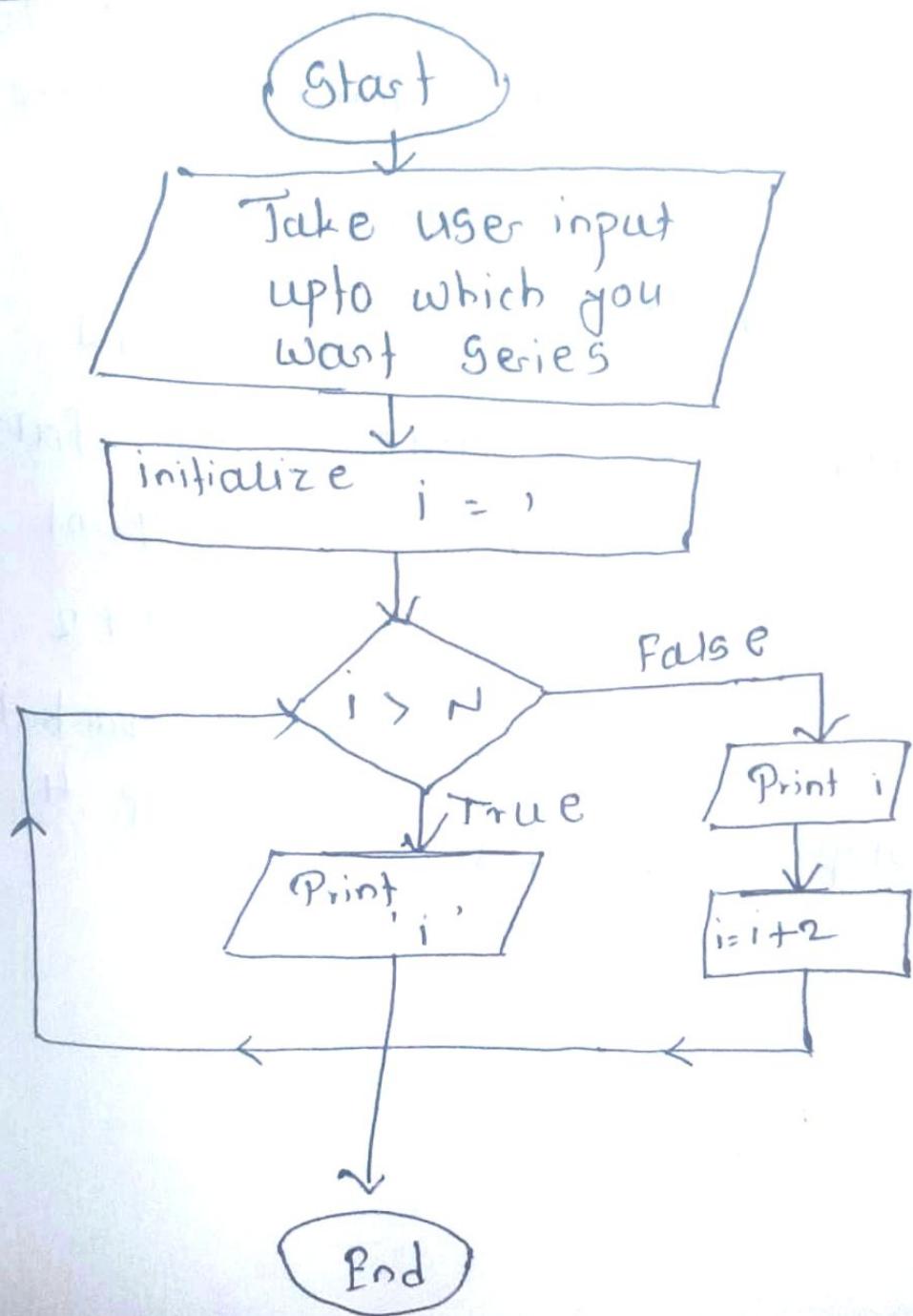
Step 5 True False



Step 6 : End

20. odd number Series :-
1 3 5 7 9 - - -

Flowchart :-



Algorithm :-

Step 1 : Start

Step 2 : Take an user input to
Get ~~an~~ limit on Series

Step 3 : initialize $i = 1$

Step 4 : check if $i > N$

Step 5 : if true if false

 Print i Print i

$i + 2$

Go Back To
Step 4

Step 6 : End.