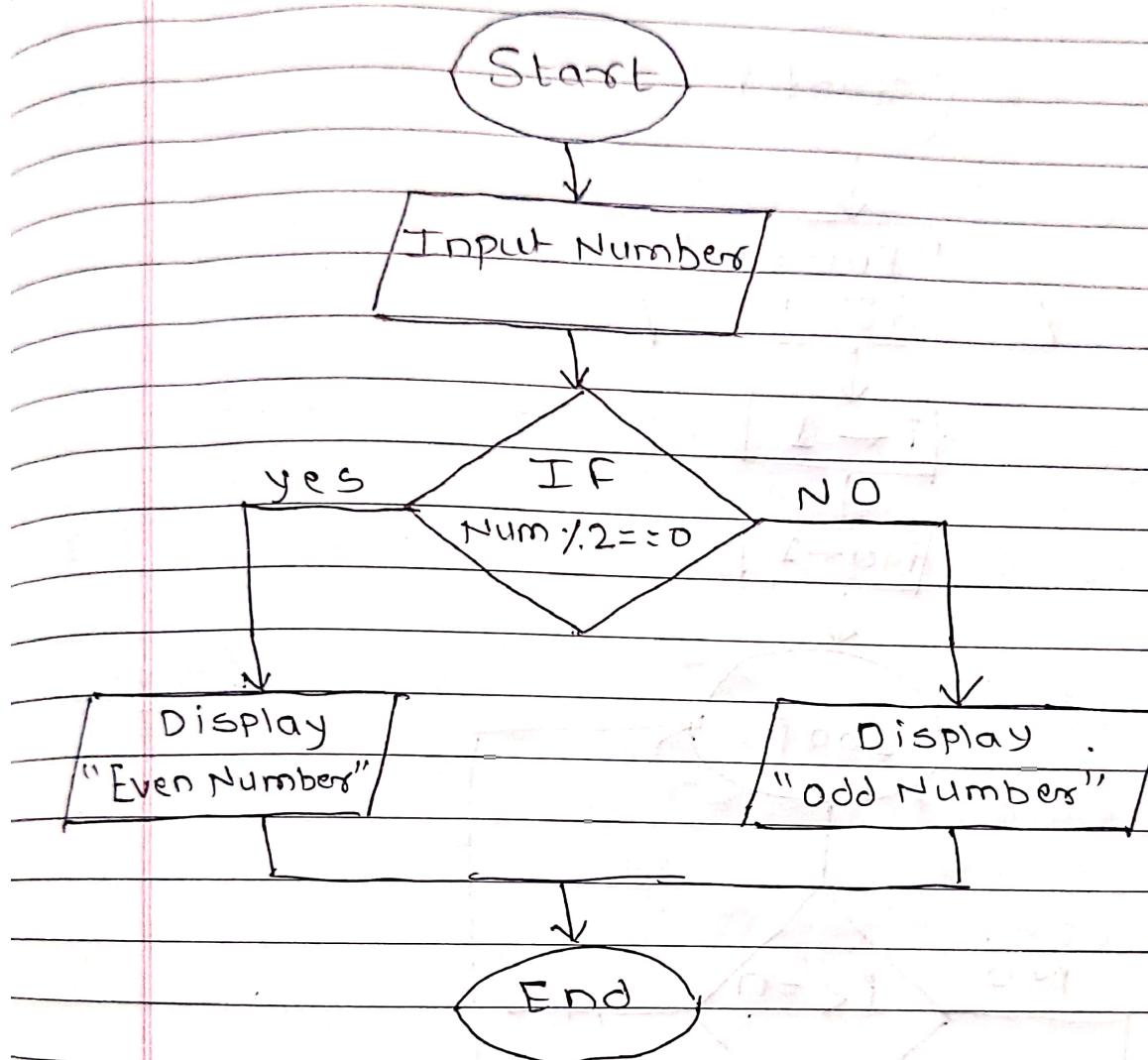


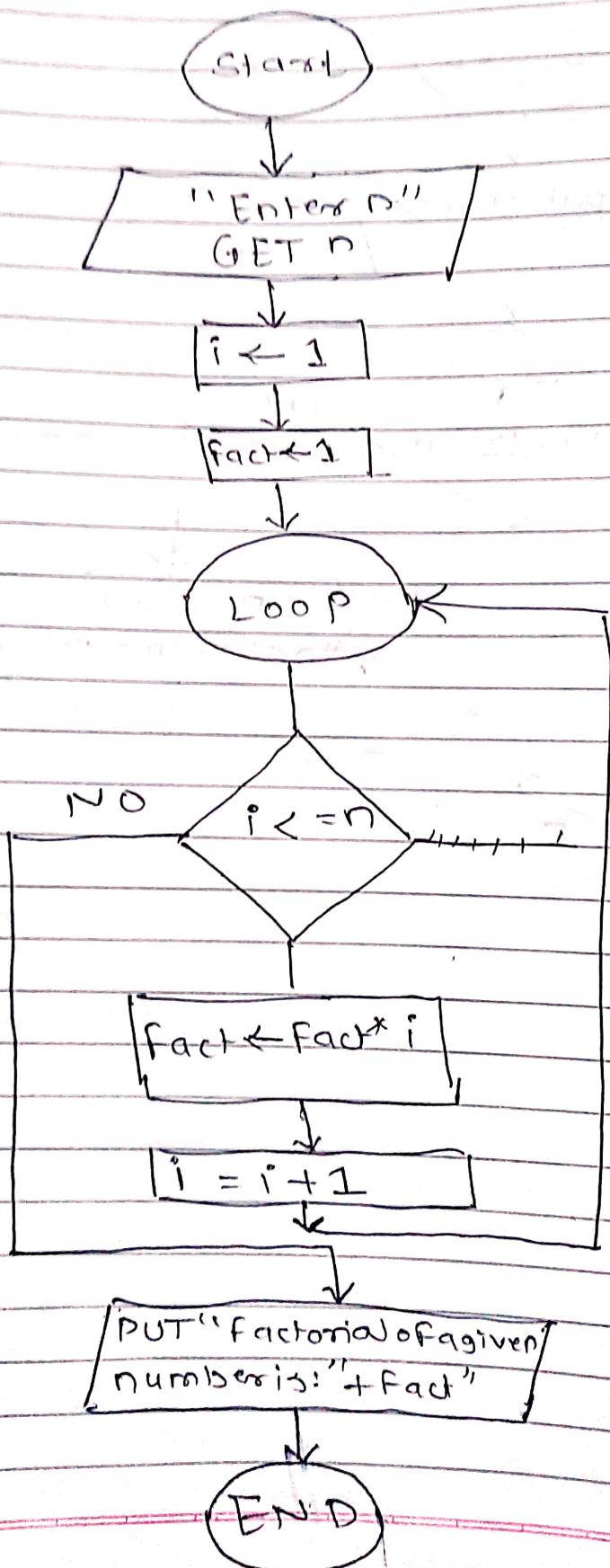
Assignment no. 1

Q.1 Check if given number is Even or Odd.



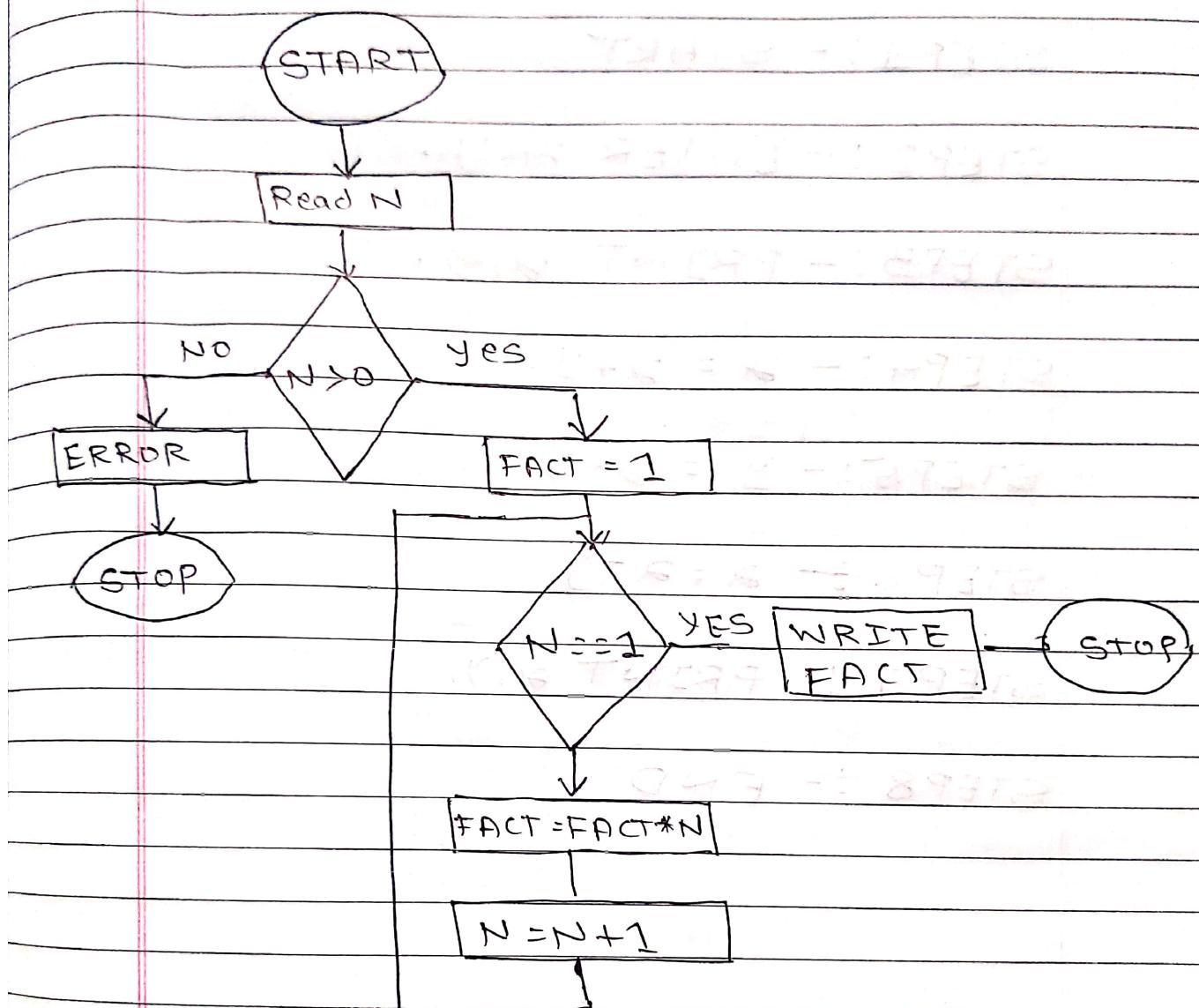
Q.2

Flowchart to find the factorial of a given number.



Q.3 Flowchart to find the factorial of a Number Using Recursion

Date _____
Page _____



Q.4 Swap Two Numbers without using
the third variable approach

STEP 1 :- START

STEP 2 :- ENTER x, y .

STEP 3 :- PRINT x, y .

STEP 4 :- $x = x + y$.

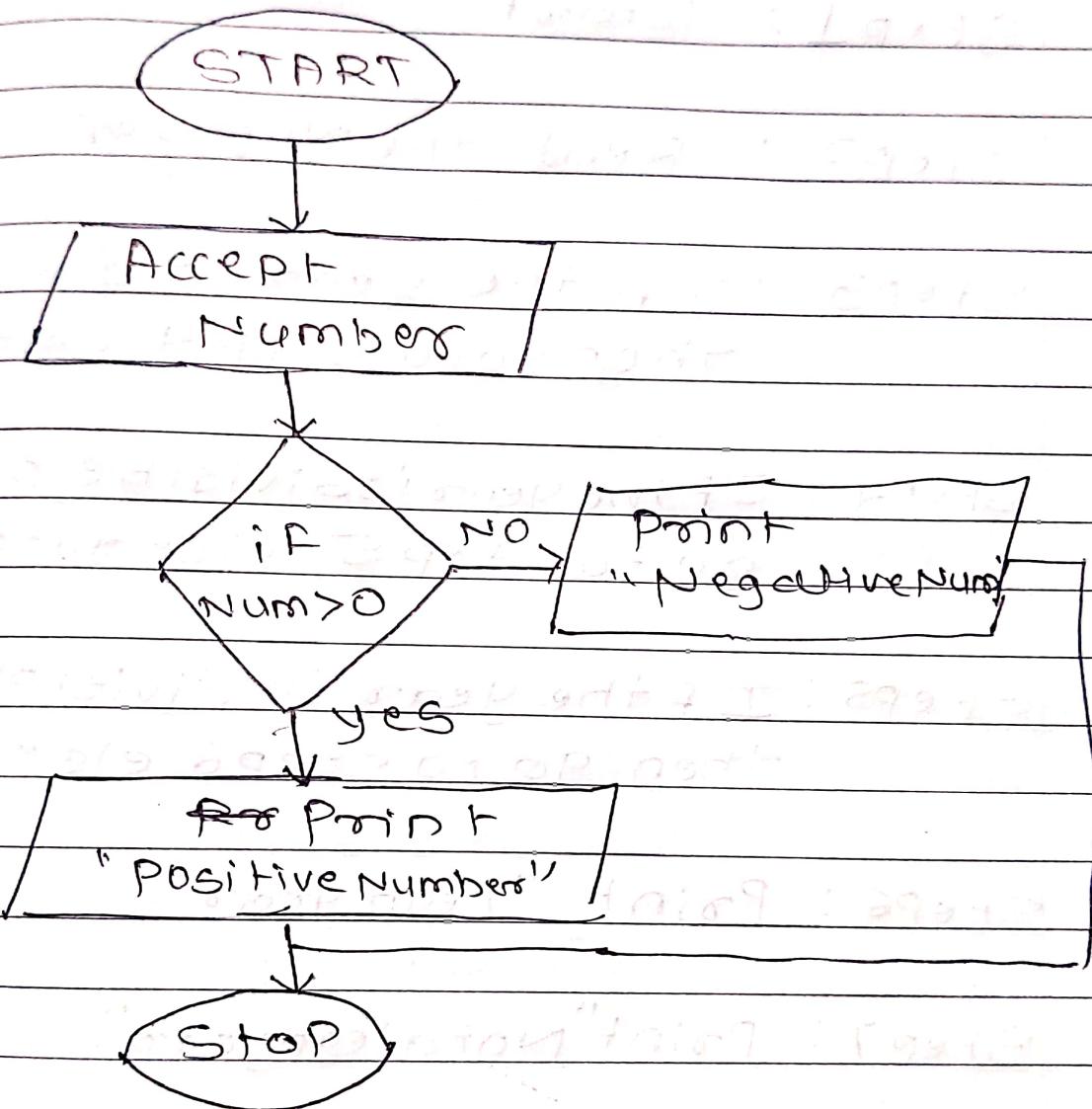
STEP 5 :- $y = x - y$

STEP 6 :- $x = x - y$

STEP 7 :- PRINT x, y .

STEP 8 :- END

Q.5 How to check whether the given number is positive or negative in java?



Algorithm
Q.6 Flowchart to find whether given Number
is Leap year or not?

Step 1 : Start

Step 2 : Read the Number

Step 3 : If the year is divisible by 4
then goto step 4 else goto step 7

Step 4 : If the year is divisible by 100 then
go to step 5 else goto step 6

Step 5 : If the year is divisible by 400
then go to step 6 else goto step 7

Step 6 : Print "Leap year".

Step 7 : Print "Not a leap year".

Step 8 : Stop .

a. 7 Algorithm to print 1 to 10 without using loop.

Step 1 :- Start

Step 2 :- Take 1 as a input

Step 3 :- point the value & increment the value

Step 4 :- Again point the value

Step 5 :- Repeat Step 3 & 4 until
value points 10

Step 6 :- Stop.

Q.8. Algorithm to print the digits of a given number.

Step 1 :- Start

Step 2 :- Initialize variable to store total digits say count = 0

Step 3 :- IF num > 0 then increment count by 1 i.e. count++

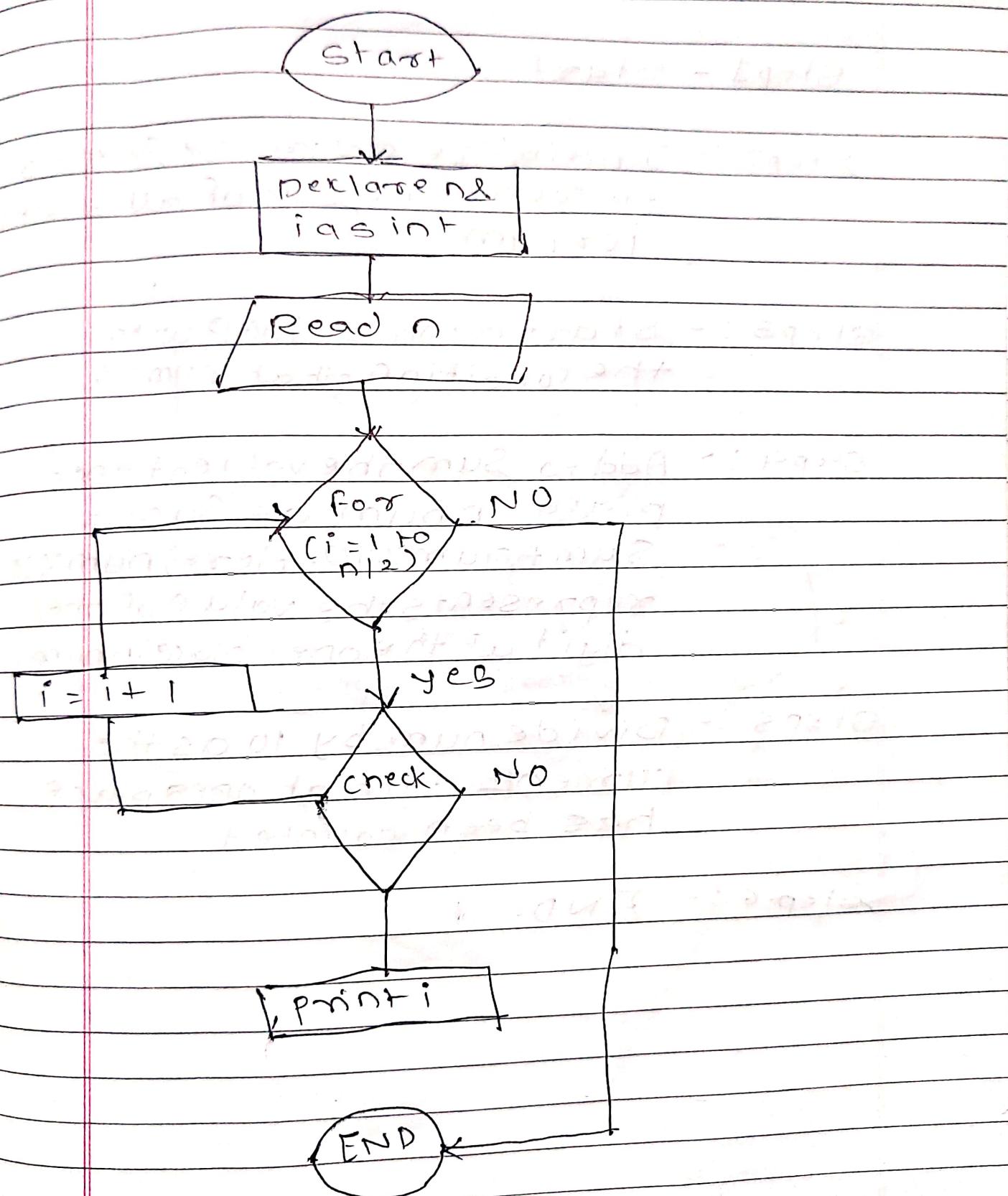
Step 4 :- Divide num by 10 to remove the last digit of the given number i.e. num = num / 10

Step 5 :- Repeat Step 3 to 4 until num > 0. ~~num <= 0~~

Step 6 :- End

Q.9

Flowchart to print all the factors of the given number



Q.10 Algorithm to find sum of the digits of a given number.

Step 1 :- Start

Step 2 :- Initialize a variable $\text{sum} = 0$ to count the sum of all digits for num

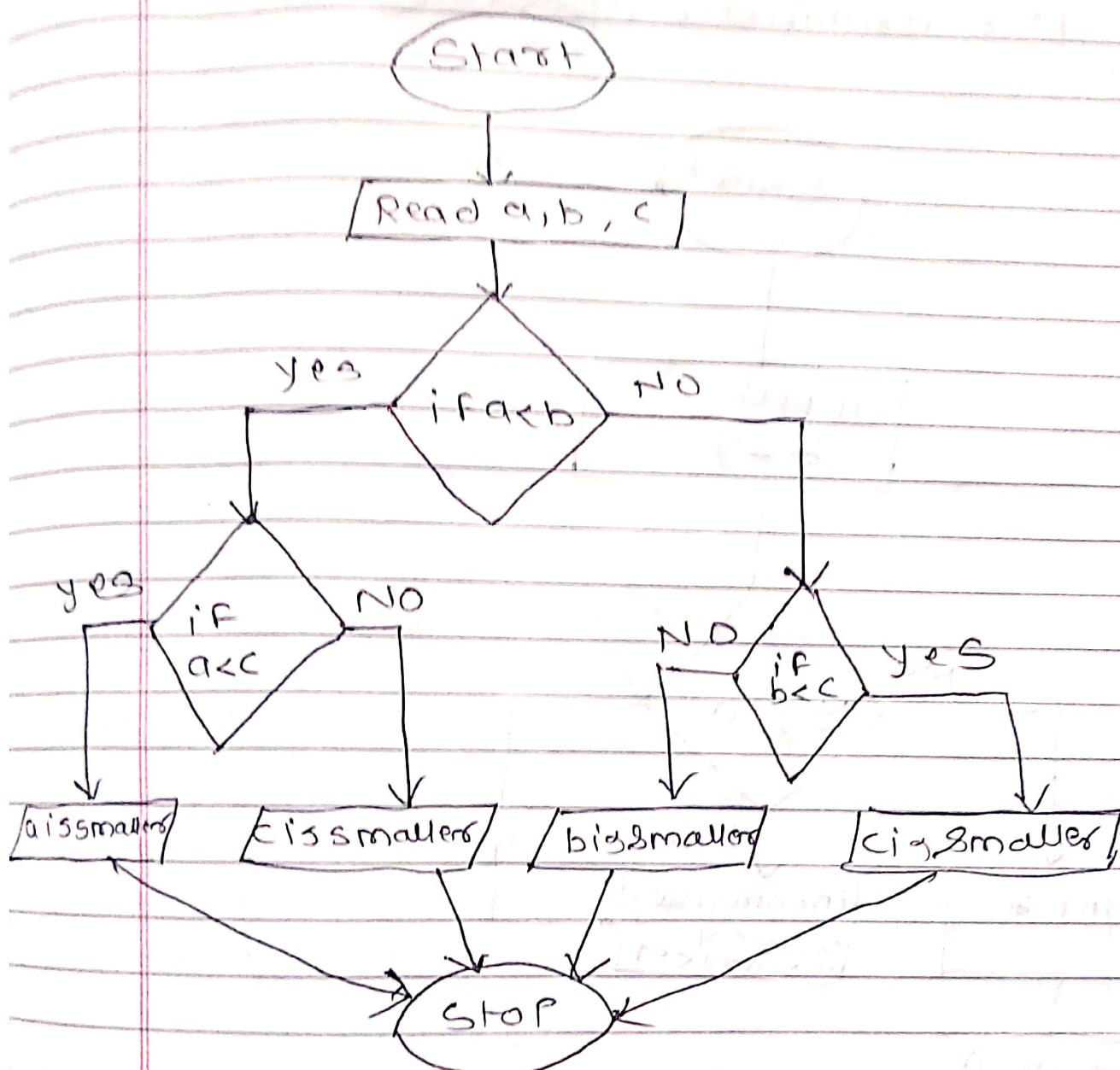
Step 3 :- Start a while loop with the condition that $\text{num} > 0$

Step 4 :- Add to sum the value at ones place in num as $\text{sum} = \text{sum} + \text{num} \% 10$. Here, $\text{num} \% 10$ represents the value of the digit at the ones place in num.

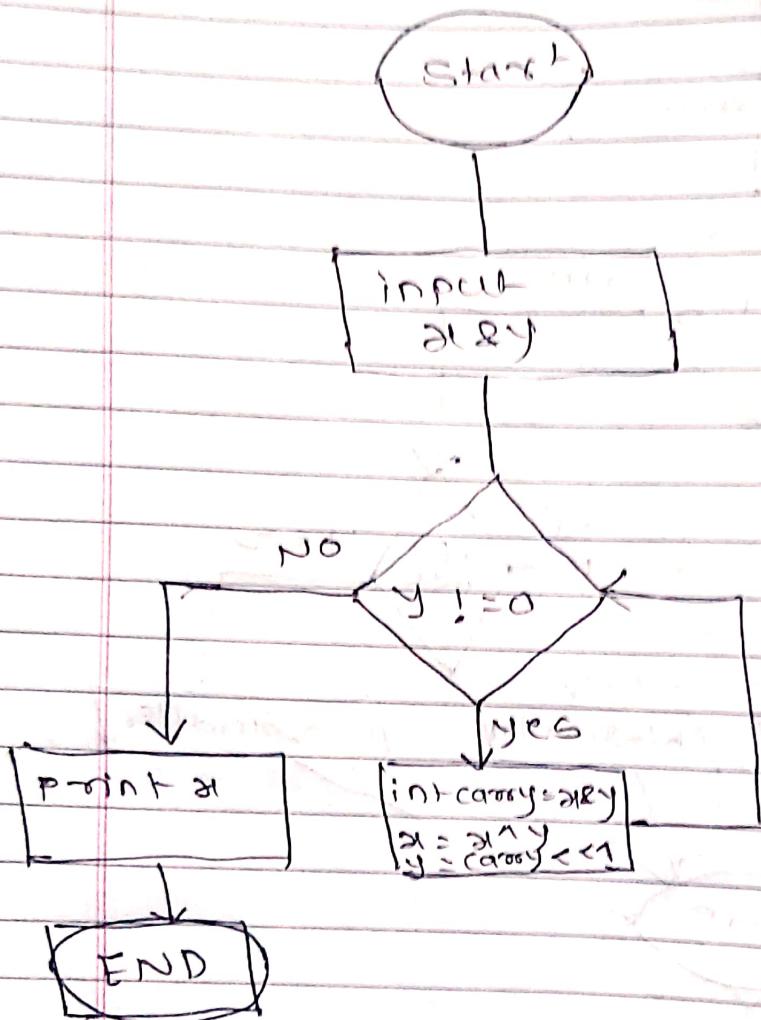
Step 5 :- Divide num by 10 as the current digit at ones place has been counted

Step 6 :- END.

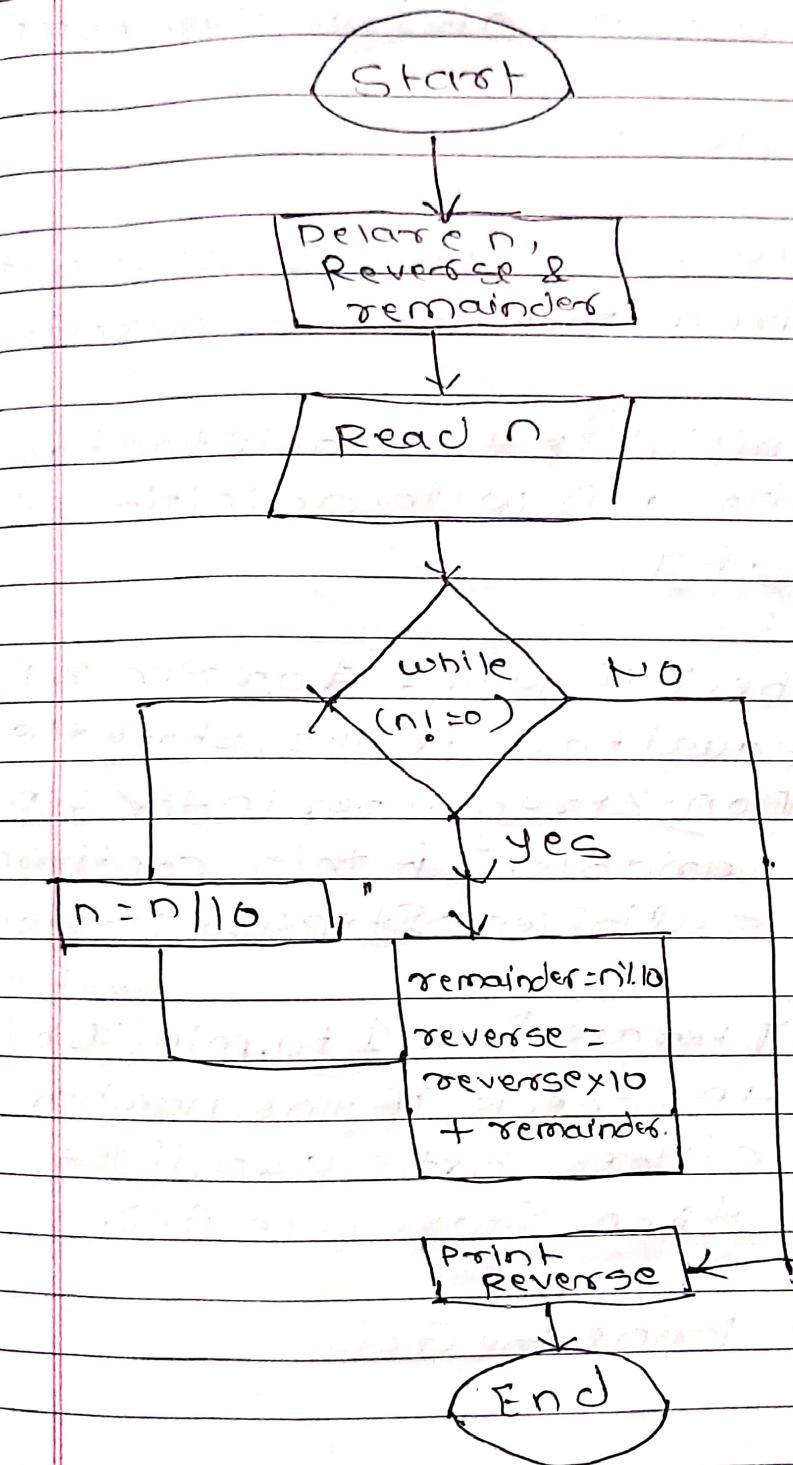
Q.11 Flowchart to find the greatest of 3 numbers



Q.12 How to add two numbers without using the arithmetic operations in java?



Q.13 Flow chart to Reverse the given Number



Q.14 algorithm to find the GCD (Greatest common divisor) of two given numbers

Step1:- Start

Step2:- Take two numbers as input from the user to find their GCD

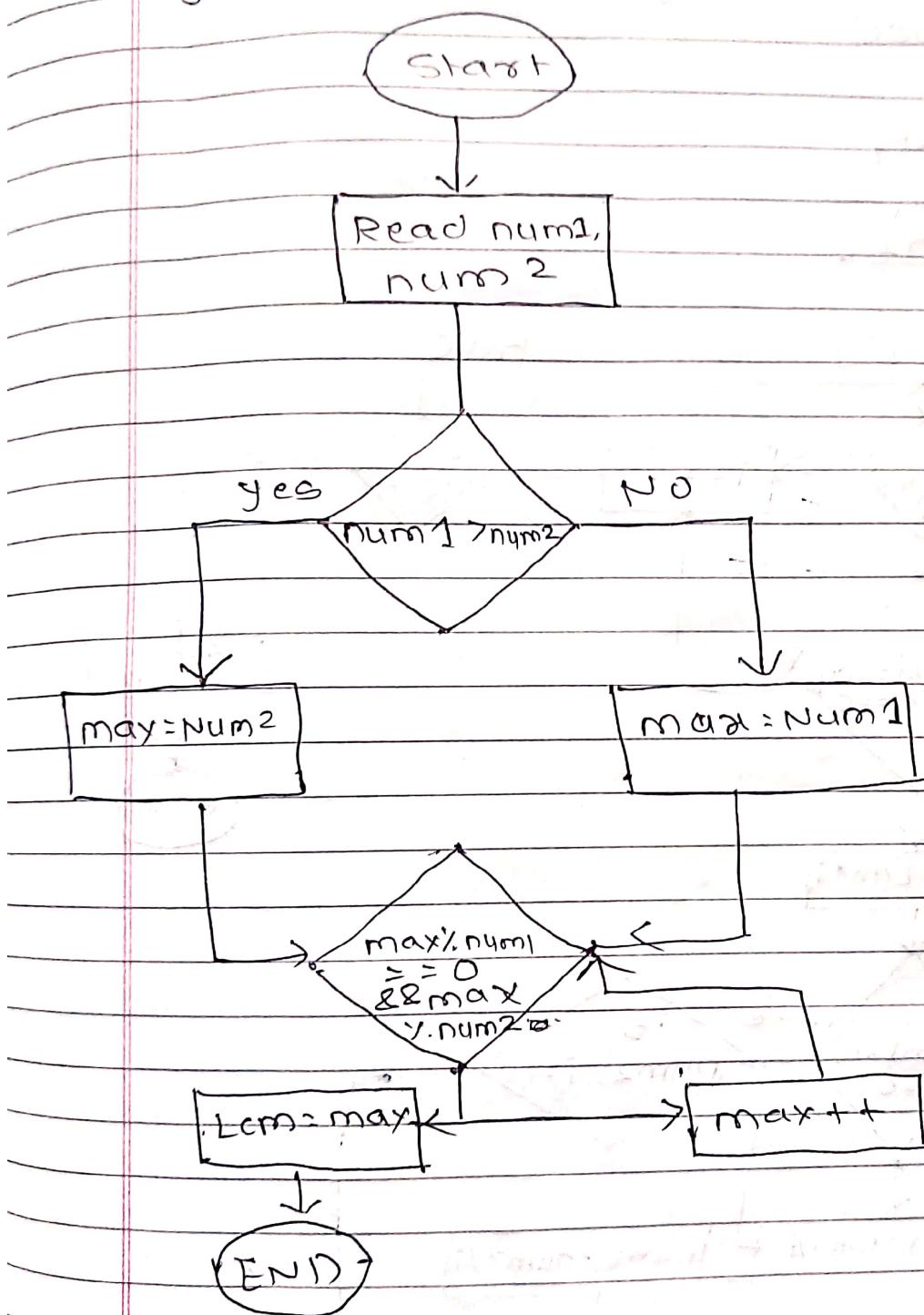
Step3:- Initialize a variable to store the GCD with an initial value of 1.

Step4:- Check if num1 & or num2 is equal to 0, if yes, store the non-zero number in the GCD variable. If this condition satisfies, step 4 will be skipped

Step5:- Iterate from 1 to $\min(a, b)$ and check if the number divides both a & b, if yes, then store it in GCD.

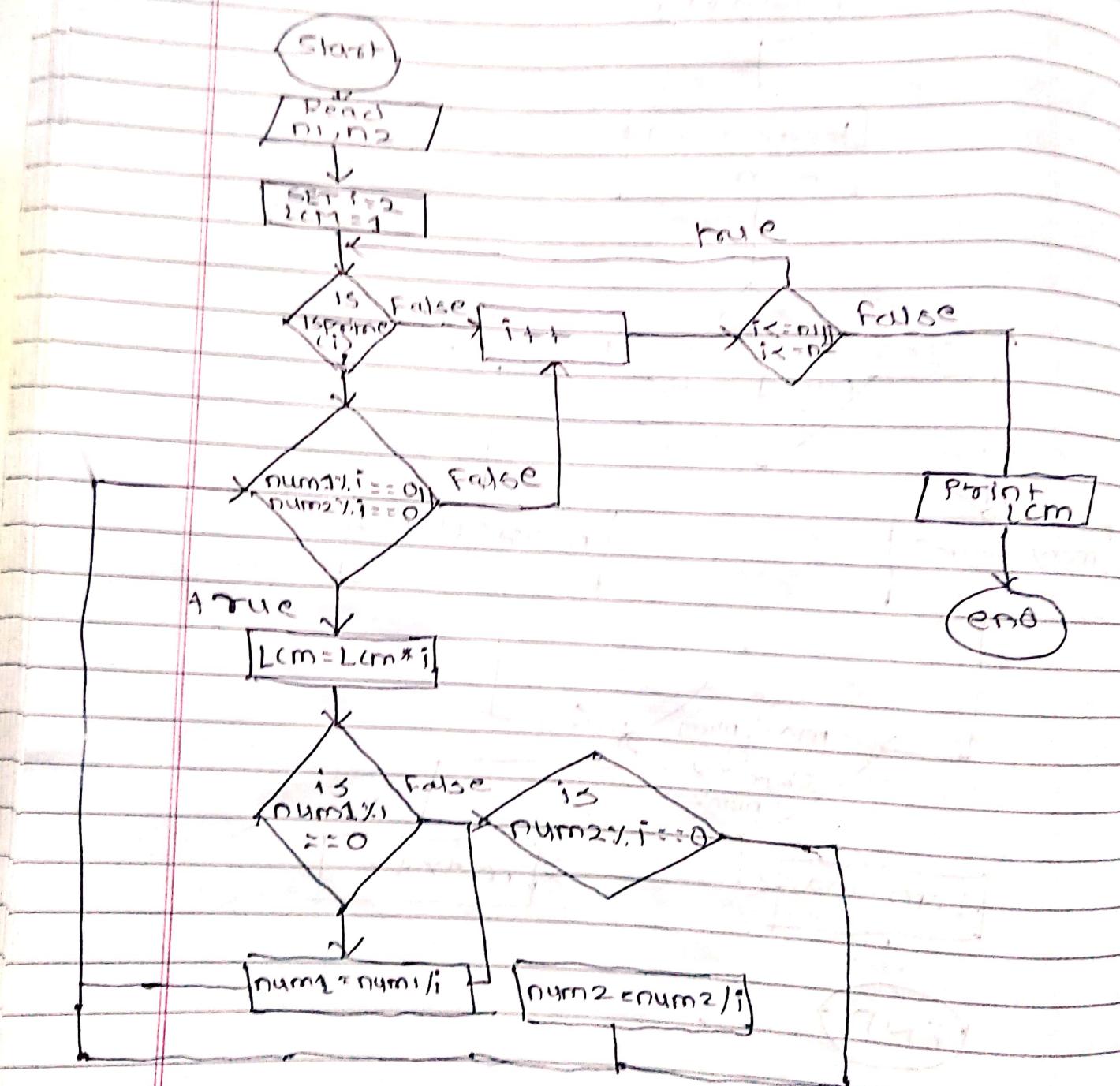
Step6:- Print the GCD

Q.15 Flowchart to find LCM of two given numbers



Q.16

Flowchart to find Lcm of Two given numbers using the prime factors method.



0.17 Algorithm to check whether the given number is a palindrome or not

Step 1:- Start

Step 2:- Take a number n as input

Step 3:- Initialize a variable to say reverse = 0.

Step 4:- copy value of n to another variable say m i.e. $m = n$

Step 5:- Initialize a variable to say reverse = 0

Step 6:- Perform $x = n \% 10$

Step 7:- perform $reverse = reverse * 10 + x$.

Step 8:- If $n = 0$ go to Step 9 else

go to Step 4

Step 9:- check if $reverse = m$

Step 10:- If Step 9 is true then n is Palindrome else n is not Palindrome.

Step 11:- END

Q.18

Algorithm to print all prime factors of the given numbers.

Step 1 :- Start

Step 2 :- Take numbers as input.

Step 3 :- check if the number N has 2 as a prime factor
Do this by continuously dividing N by 2 and checking if the remainder is 0

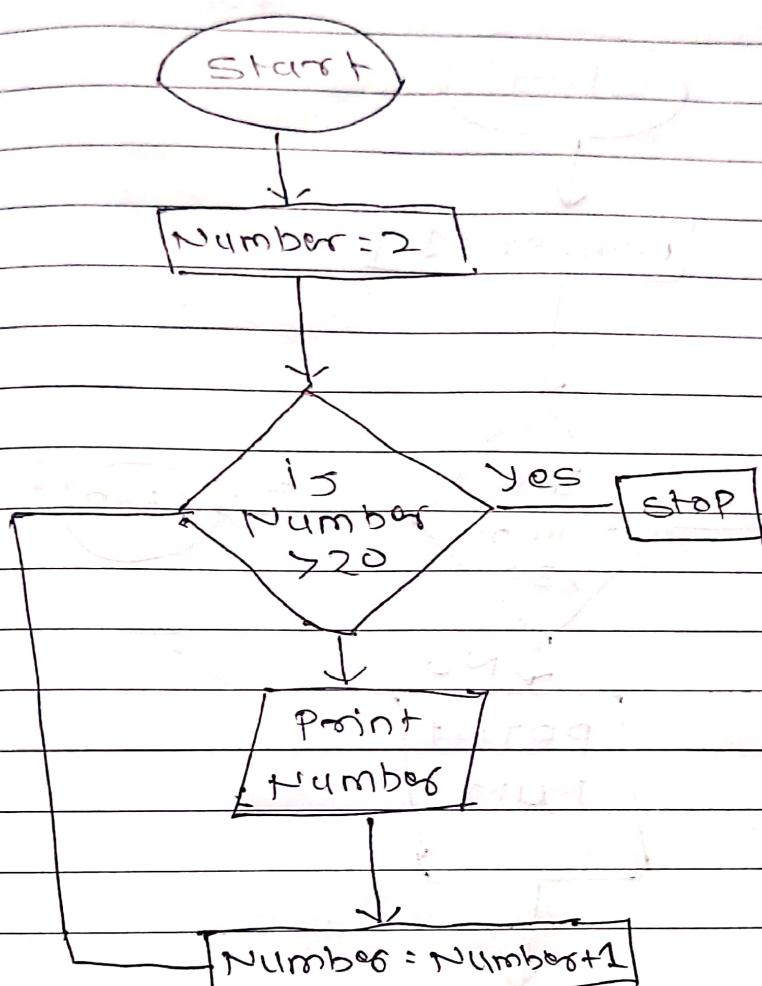
Step 4 :- check for odd prime factors of N .

Do this by continuously dividing N from 3 till \sqrt{N} , Square Root(N) and checking if the remainder is 0.

Step 5 :- Check if the value of N is still greater than 2
If N is greater than 2, then N is a prime number with a power of 1.

Step 6 :- END

Q.19 Flow chart to print following Series EVEN
number, Series 2, 4, 6, 8, 10, 12, 14



Q.20 ~~to~~ flowchart to print the following

Series odd number Series 1, 3, 5, 7, 9, 11...

