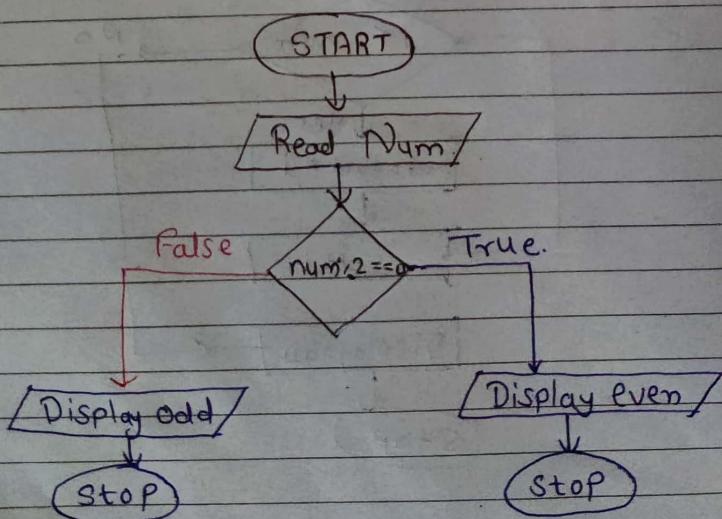


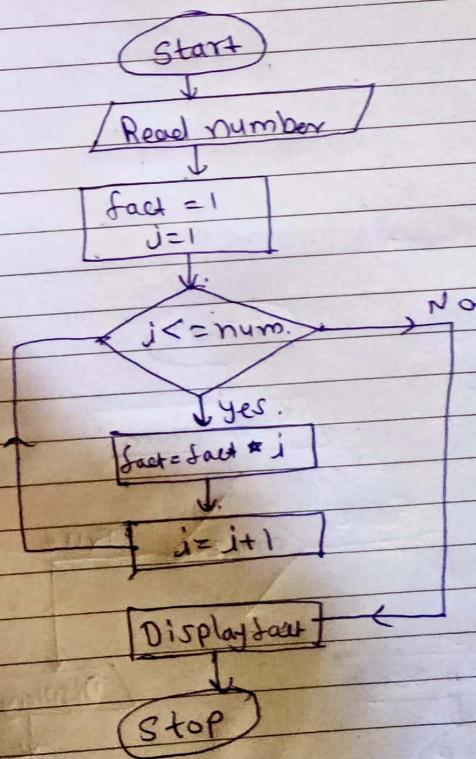
- Q] even or odd (Algo & flowchart)
- 1) Start
 - 2) Read Num
 - 3) If num divisible by 2 Goto Step else.
 - Step
 - 4) Display "even" and stop
 - 5) Display "odd" and stop
 - 6) END.

Flowchart.



- (a) factorial of a number. (Algorithm & flowchart)
- Algorithm.
- 1) Start.
 - 2) read number
 - 3) Set fact = 1, i = 1.
 - 4) check Cond'n $i \leq \text{number}$ if false, goto step 8.
 - 5) fact = fact \times i
 - 6) update $i = i + 1$ goto step 4
 - 7) Display fact
 - 8) Stop.

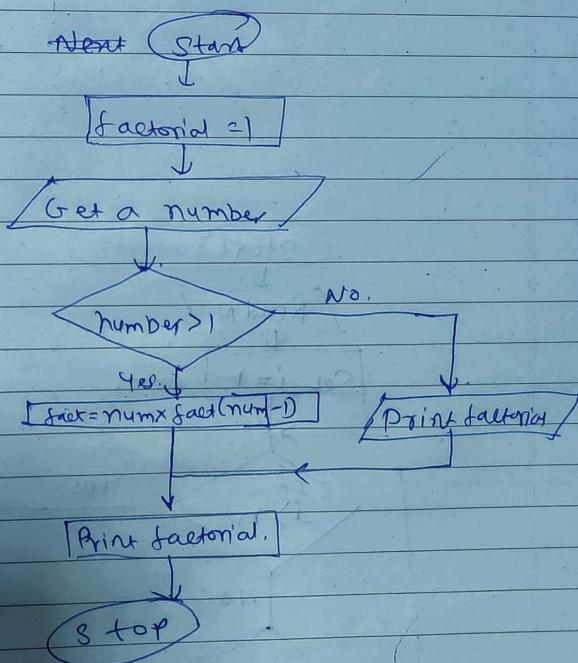
Flowchart.



Q3) Factorial using recursion

→ Algorithm.

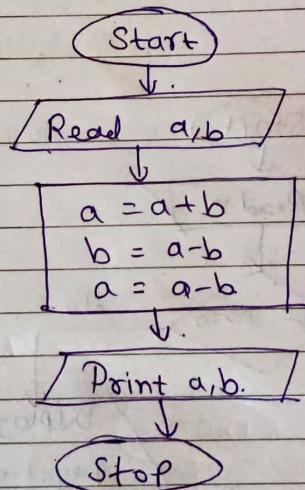
- 1) Start
- 2). Declare Variable fact = 1
- 3). Get number
- 4) Call method fact (number) recursively until value of number > 1
- 5) Print 'factorial'
- 6) Stop



4) Swap two numbers without using third variable.

→ Algorithm.

- 1) Start
- 2) read a,b
- 3) $a = a+b$
- 4) $b = a-b$
- 5) $a = a-b$
- 6) Display a,b
- 7) Stop



58) Given number is Positive or
negative

→ Algorithm:-

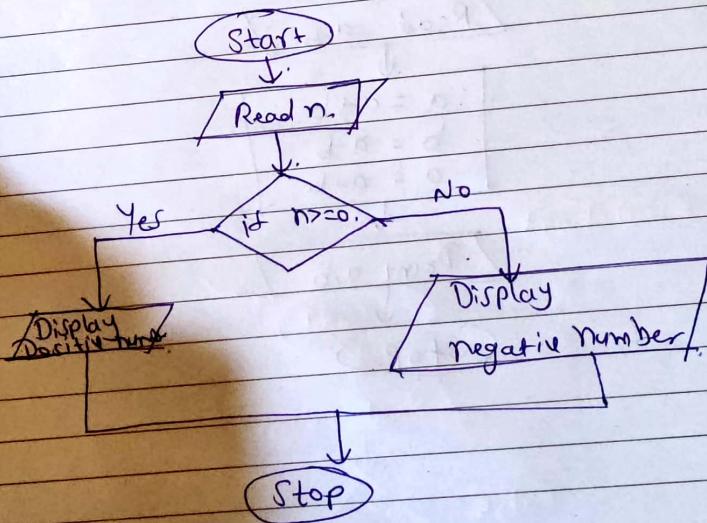
1). Start

2). Read n.

3). If ($n \geq 0$) then print "n is positive number"

4). else. "n is negative number".

Flowchart



6 Q) Write a Java Program to find whether a given number is leap year or not.

→ Algorithm.

1) Start

2) Input year

3) If ($\text{year} \% 4 == 0$ and $\text{year} \% 100 != 0$)
Display "year is a leap year"

4) else

If ($\text{year} \% 400 == 0$)

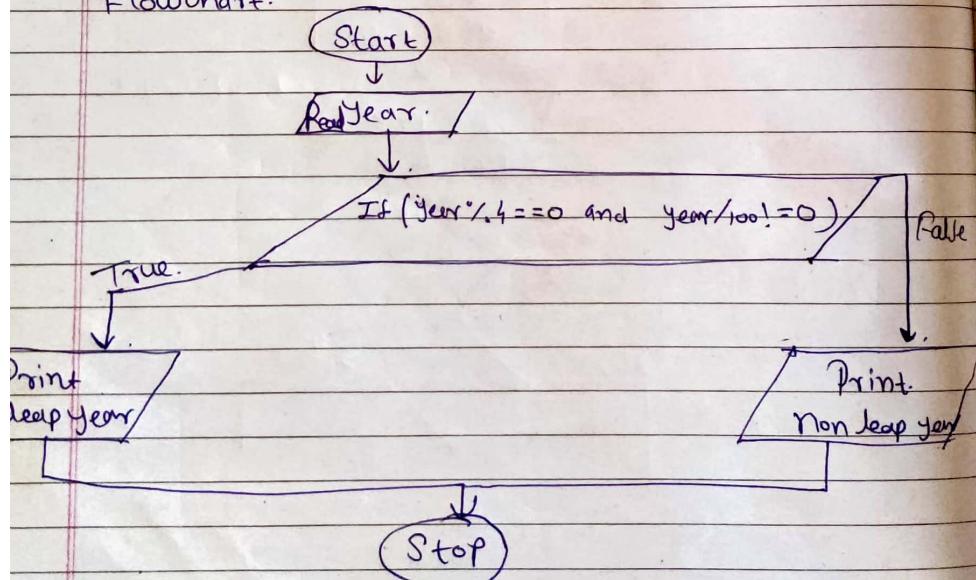
Display "year is a leap year"

else

Display "year is a non leap year"

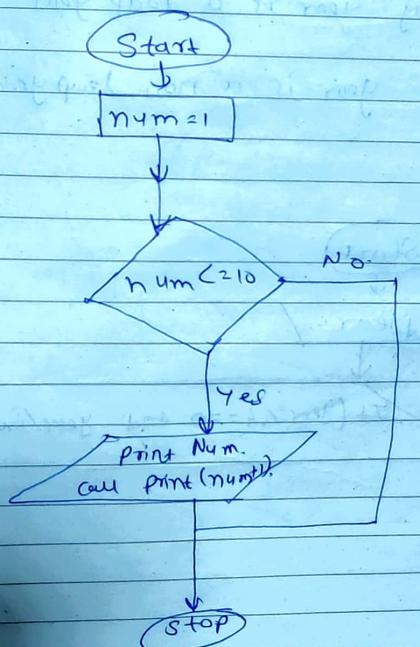
5) Stop.

Flowchart.



7 Q) Write a program to Print 1 to 10 Without Using loop.

- 1) start
- 2) call print num
- 3) Define a method print
 - a. check $num \leq 10$ if true print and Recursively call print method with num+1 else exit
- 4) stop



89) Write a program to print the digits of a given number

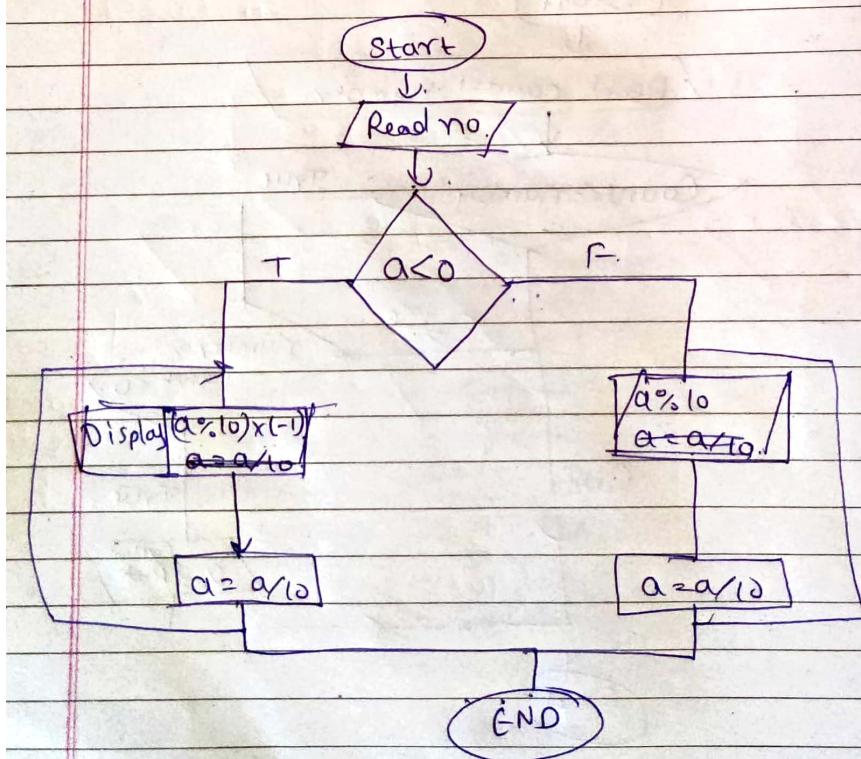
- 1) start.
- 2) accept no.
- 3) If $a < 0$

Display $(a \% 10) \times (-1)$

If $a > 0$

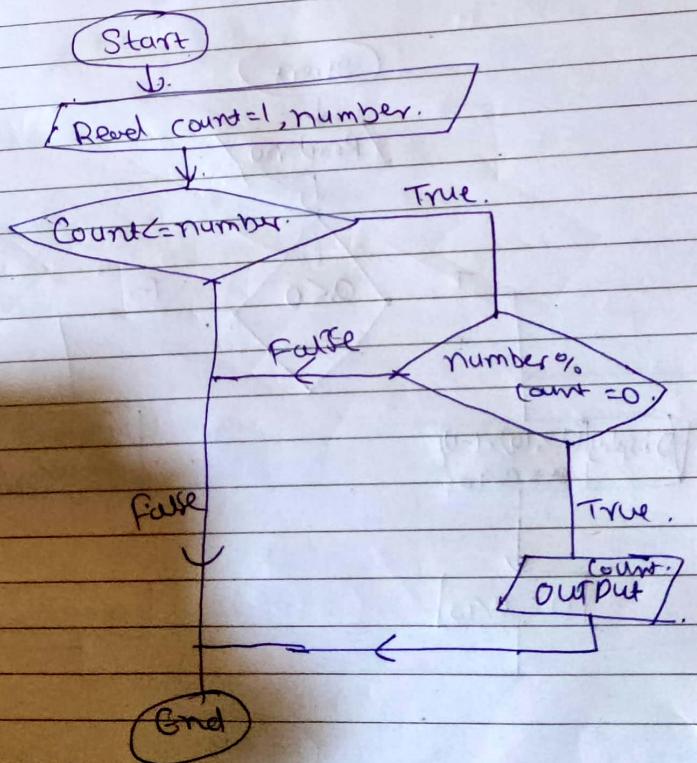
Display $(a \% 10)$.

- 4) END.



Q) Write a Java Program to print all the factors of the given number.
→ algorithm.

- 1) Start
- 2) Read number
- 3) Count = 1
- 4) If (Count <= number). Then goto 5.
else goto 8.
- 5) If (number % count = 0) Then goto 6
else goto 7.
- 6) Print Count
- 7) Count = Count + 1. goto 4
- 8) Stop

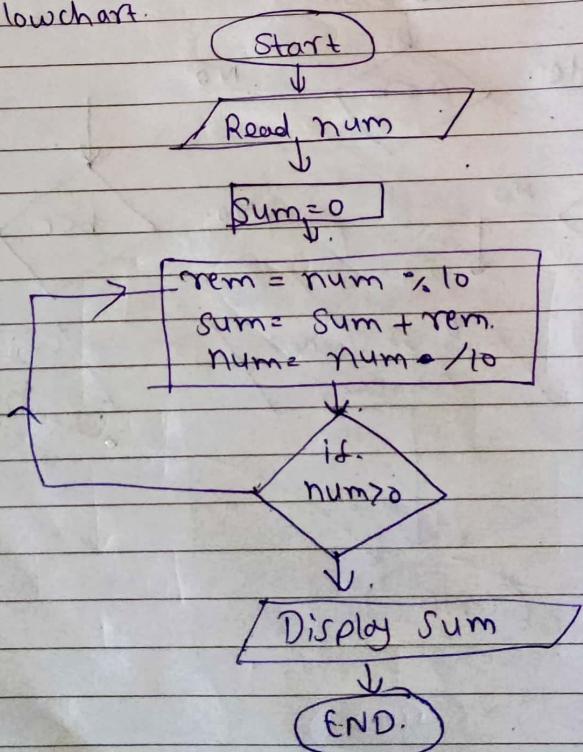


Q 10. Write a Program. to find. the sum of all
the digits of a given number.

→ algorithm :-

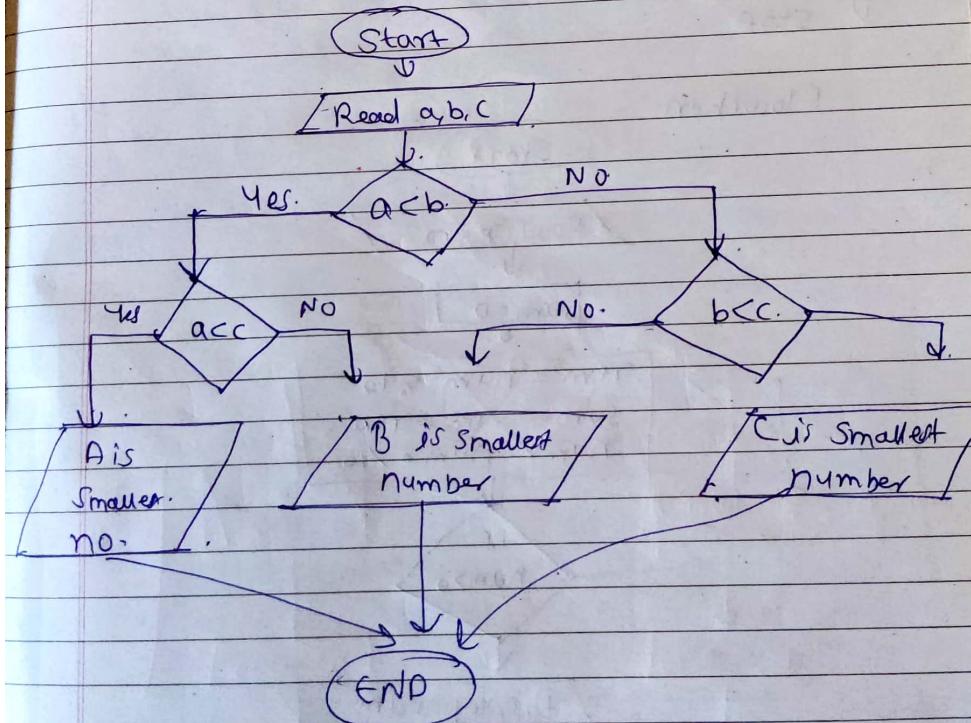
- 1) Start.
- 2) Read number.
- 3) Sum = 0.
- 4) rem = num % 10.
- 5) Sum = Sum + rem.
- 6) num = num / 10
- 7) If (num > 0) then goto ④
else goto ⑥.
- 8) Display Sum
- 9) Stop.

Flowchart.



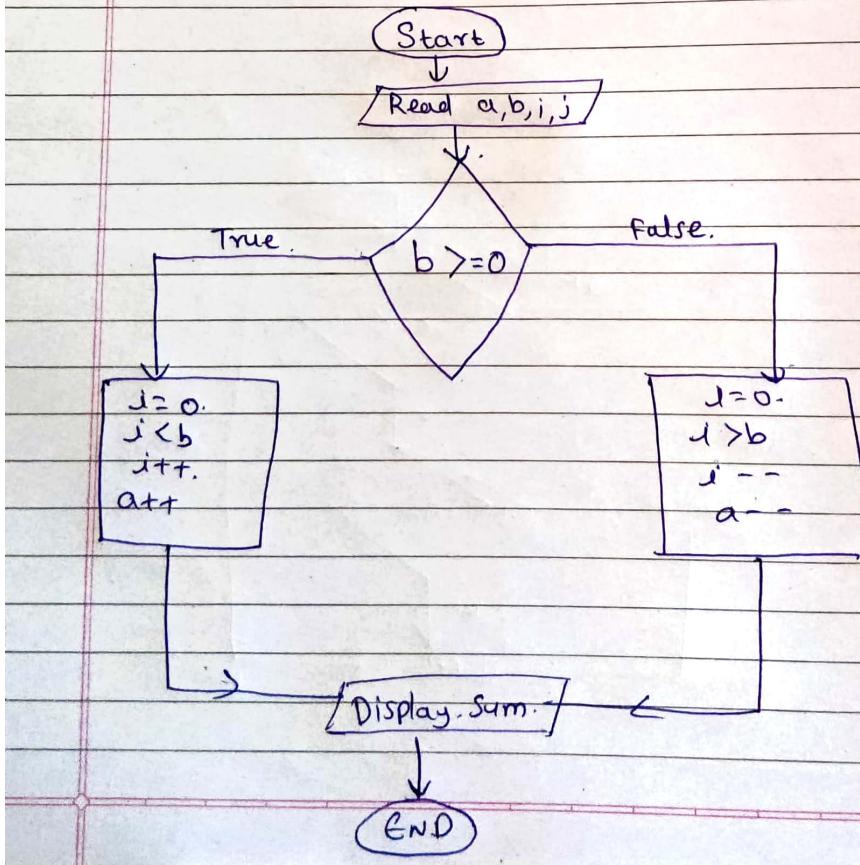
11(a) Write a Java Program to find the smallest of three numbers.
→ algorithm.

- 1) Start
- 2) Read a, b, c
- 3) If $a < b$ Yes then check $a < c$ then prints a otherwise C small number.
- 4) If $a < b$ No then check $b < c$ Yes then prints b
- 5) If $a < b$ No then $b < c$ No then prints c.
- 6) END



Q 8) The sum of two numbers without using arithmetic operator.

- 1) Start
- 2) Read a,b
- 3) If $b \geq 0$
then. $i=0, j < b, i++$ add goto 5
- 4) else $b < 0$
 $j=0, j > b, i=-, a--$ goto 5
- 5) Display
- 6) end

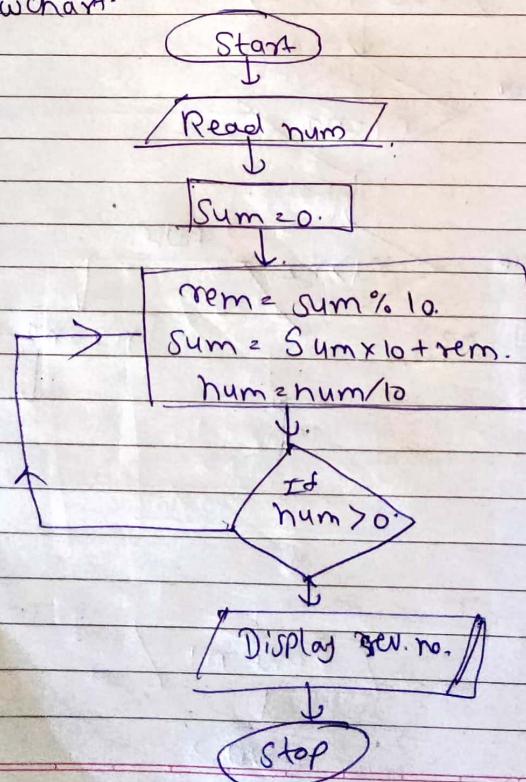


139) Write a java Program. to reverse a given number

→ Algorithm =

- 1) Start.
- 2) Read number
- 3) Sum=0
- 4) rem = sum%10.
Sum = Sum x10 + rem.
num = num/10
- 5) If (num>0) then goto Step 4.
else goto Step 6.
- 6) Display reverse no. Sum
- 7) Stop.

Flowchart.



14) write a program to find the GCD of two given numbers.

→ algorithm =

1) Start

2) Read n₁, n₂

3) If (n₁ = n₂)

Go to step 5

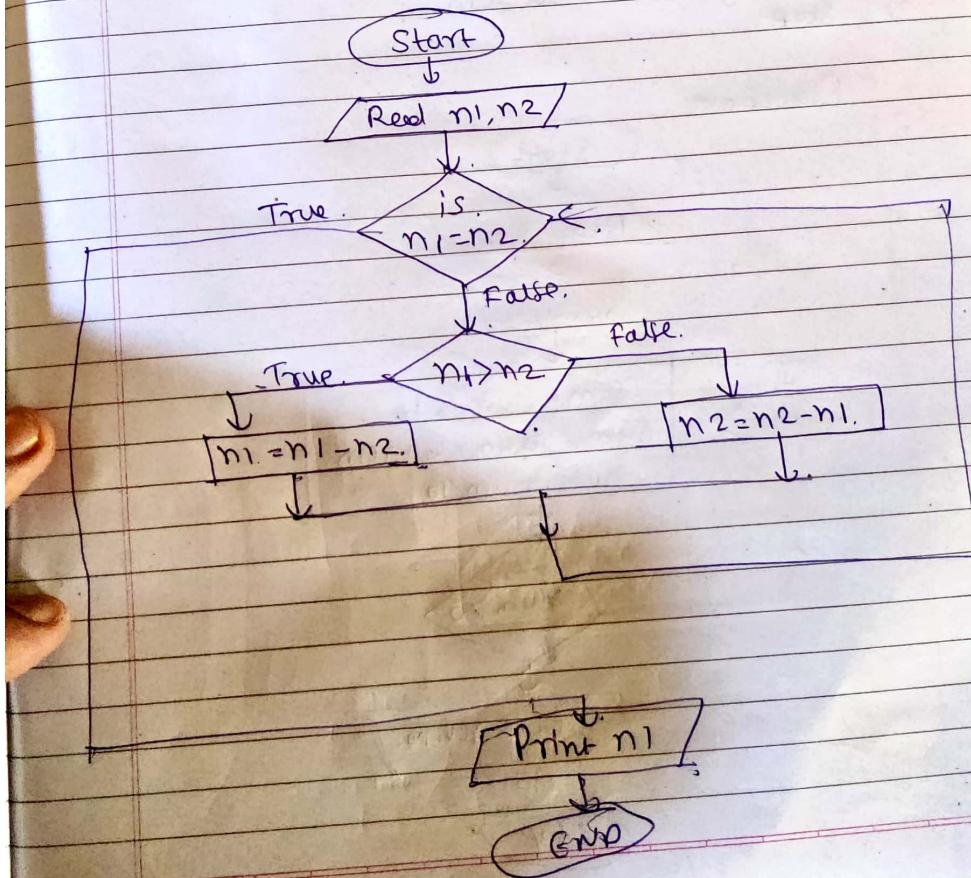
4) If (n₁ > n₂)

Then n₁ = n₁ - n₂ Go to Step 3

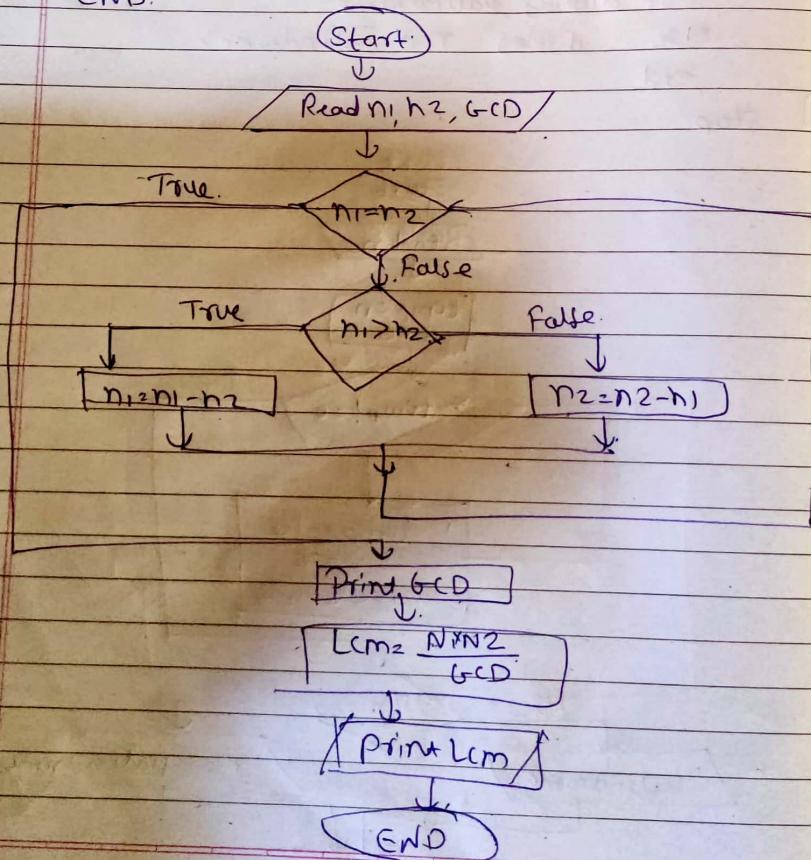
else n₂ = n₂ - n₁. Go to Step 3

5) Display n₁

6) END



- 18) Write a program to find Lcm of two numbers
 → algorithm.
- 1) Start
 - 2) Read n_1, n_2, GCD
 - 3) If ($n_1 = n_2$) Go to Step 5
 - 4) If ($n_1 > n_2$)
 Then $n_1 = n_1 - n_2$ Go to Step 3
 else $n_2 = n_2 - n_1$ Go to Step 3
 - 5) Display $GCD = n_1 \times n_2$
 $Lcm = \frac{n_1 \times n_2}{GCD}$
 - 6) END.



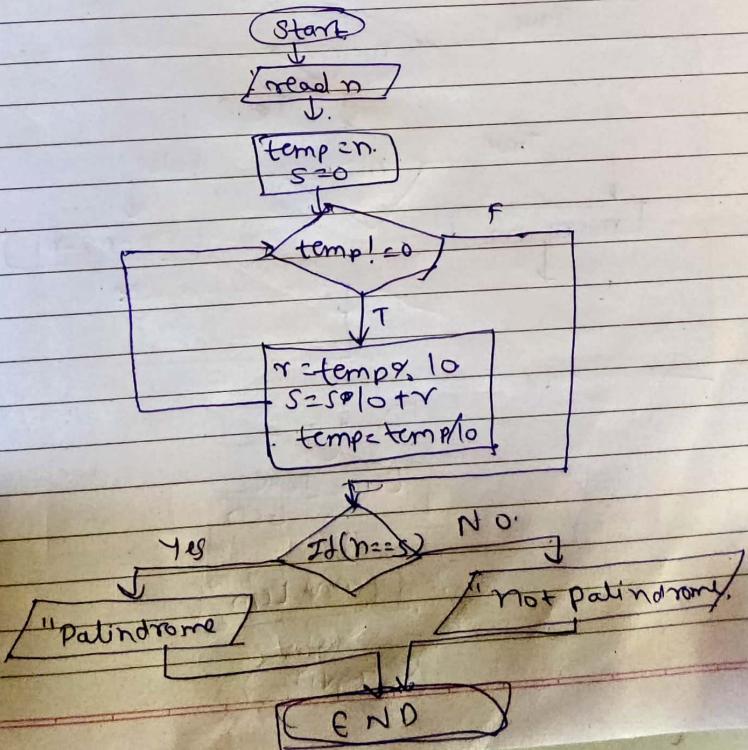
Q1) the given number is Palindrome or not.
→ Algorithm.

- i). Start
- ii). read n.
- iii). $\text{temp} = n$, $s = 0$.
- iv) while ($\text{temp} \neq 0$).
 $T = \text{temp} \% 10$
 $S = S * 10 + T$.
 $\text{temp} = \text{temp} / 10$.

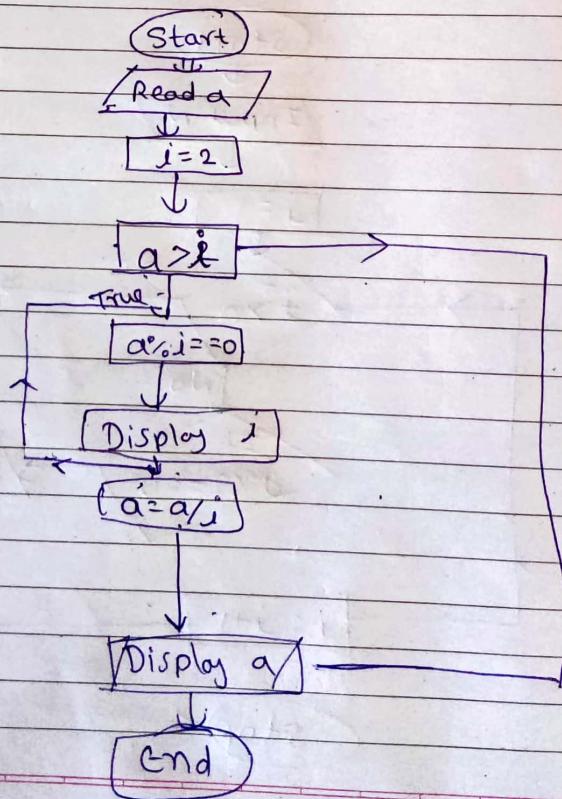
end while.

- v) If ($S == n$).
display "Palindrome"
else display "not Palindrome".
end.

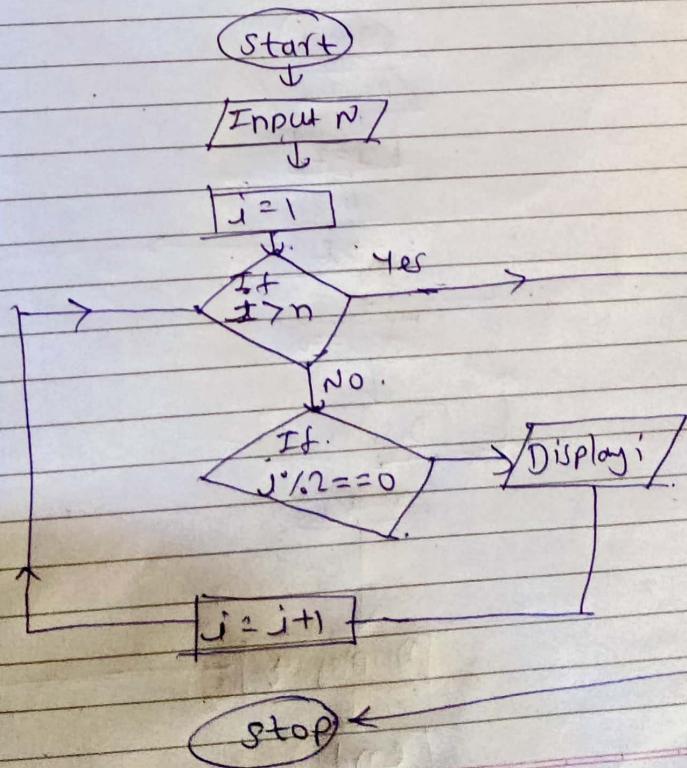
- vi) Stop.



- (8) Write a java program to Print all the Prime factors of the given number.
-
- 1) Start
 - 2) Read a.
 - 3) $j=2$
 - 4) $a > j$ - Goto. 7
 - 5) $a \% j == 0$
 - 6) Display(j).
 - 7) $a = a/j$
 - 8) Display(a).
 - 9) GND.



- (Q) 19). To Print the following even number series
- 1) Start
 - 2) Read N; I
 - 3) I = 1.
 - 4) If ($I > n$). Go to 8
end IF
 - 5) If ($I \% 2 == 0$)
then Display I.
End If.
 - 6) I = I + 1
 - 7) Goto 4
 - 8) Stop.



Q20) To print the following odd numbers series

- 1) Start.
- 2) Read N
- 3) $i = 1$
- 4) If $i > n$ then. Goto -8 end if.
- 5) If $(i \% 2 == 1)$ then. Display i end if.
- 6) $i = i + 1$
- 7) Goto Step -4.
- 8) Stop

