CDAC.

Assignment 1.

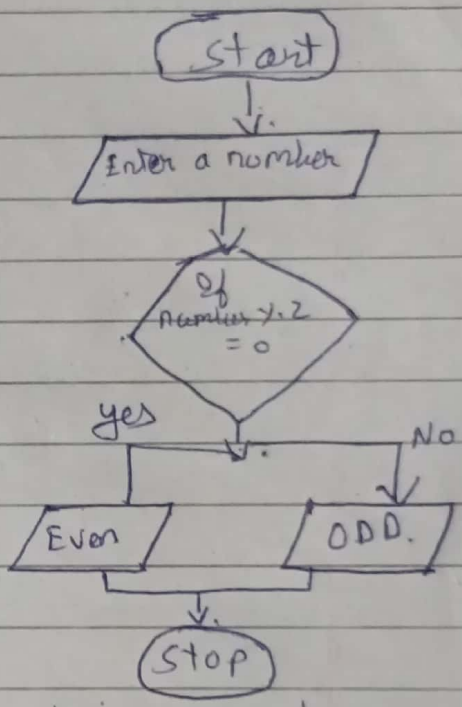
Write Algorithm and Flow chart for the following program

1) check if the given number is EVEN or ODD.

→ **Algorithm.**

1) start the program.
2) input the number
3) If n%.2 = 0 then it is even
4) and the number is odd.
5) stop.

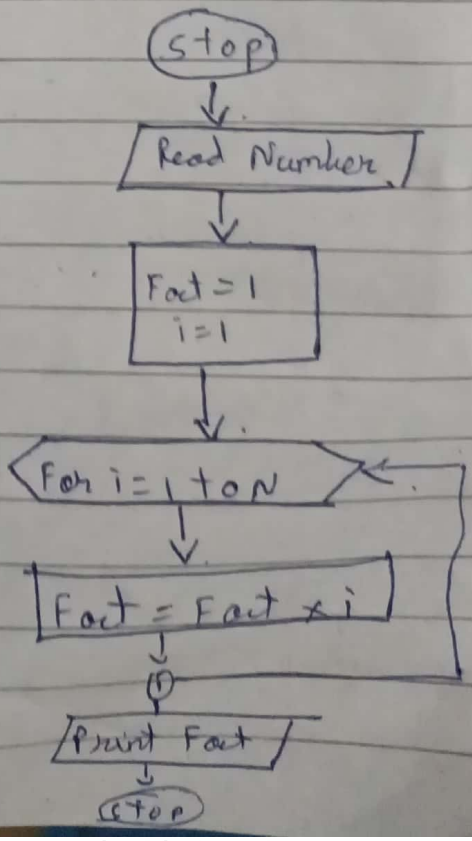
Flowchart



2) Write a Java program to find the factorial of a given Number.

→ **Algorithm**

1) start.
2) Input number.
3) Set Fact = 1, i = 1
4) check condition i ≤ number, if false go to step 7.
5) Fact = Fact × i
6) update i = i + 1 go to step 4.
7) Display Fact.
8) stop.



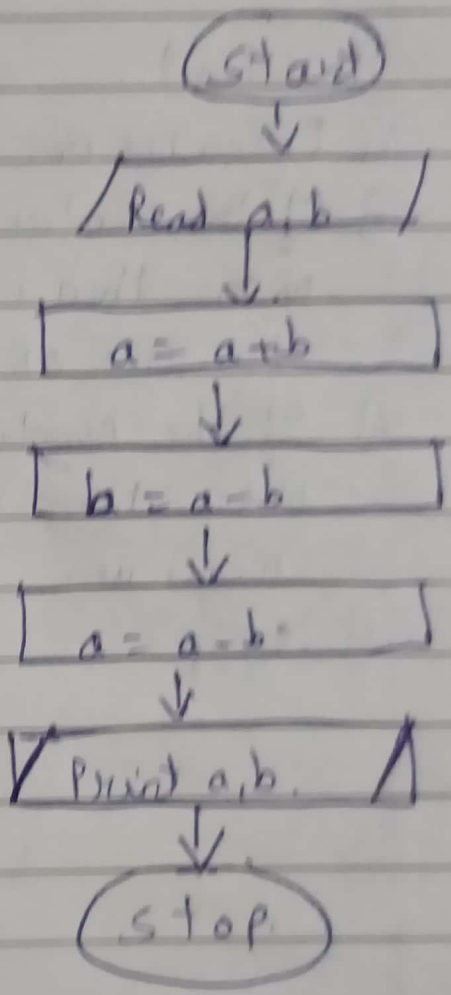
06) Swap two number without using the third variable approach?

→

Algorithm:

1) Start
2) Read a, b.
3) a = a + b.
4) b = a - b
5) a = a - b.
6) Print a, b.
7) Stop.

Flowchart:



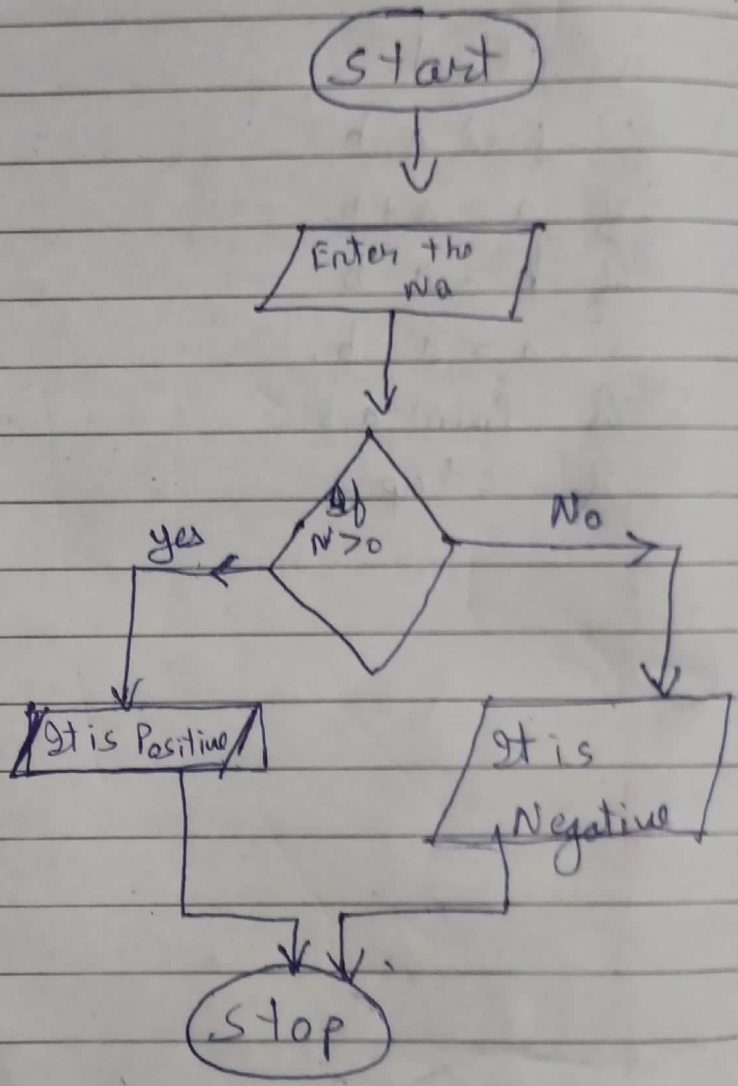
05]. How to check whether the given number is Positive or Negative in Java?

→

Algorithm.

1] Start.
2] Enter the No.
3] If the Number is N > 0 then it is Positive. OR
4] If the Number is N < 0 then it is Negative.
5] Stop.

Flowchart.



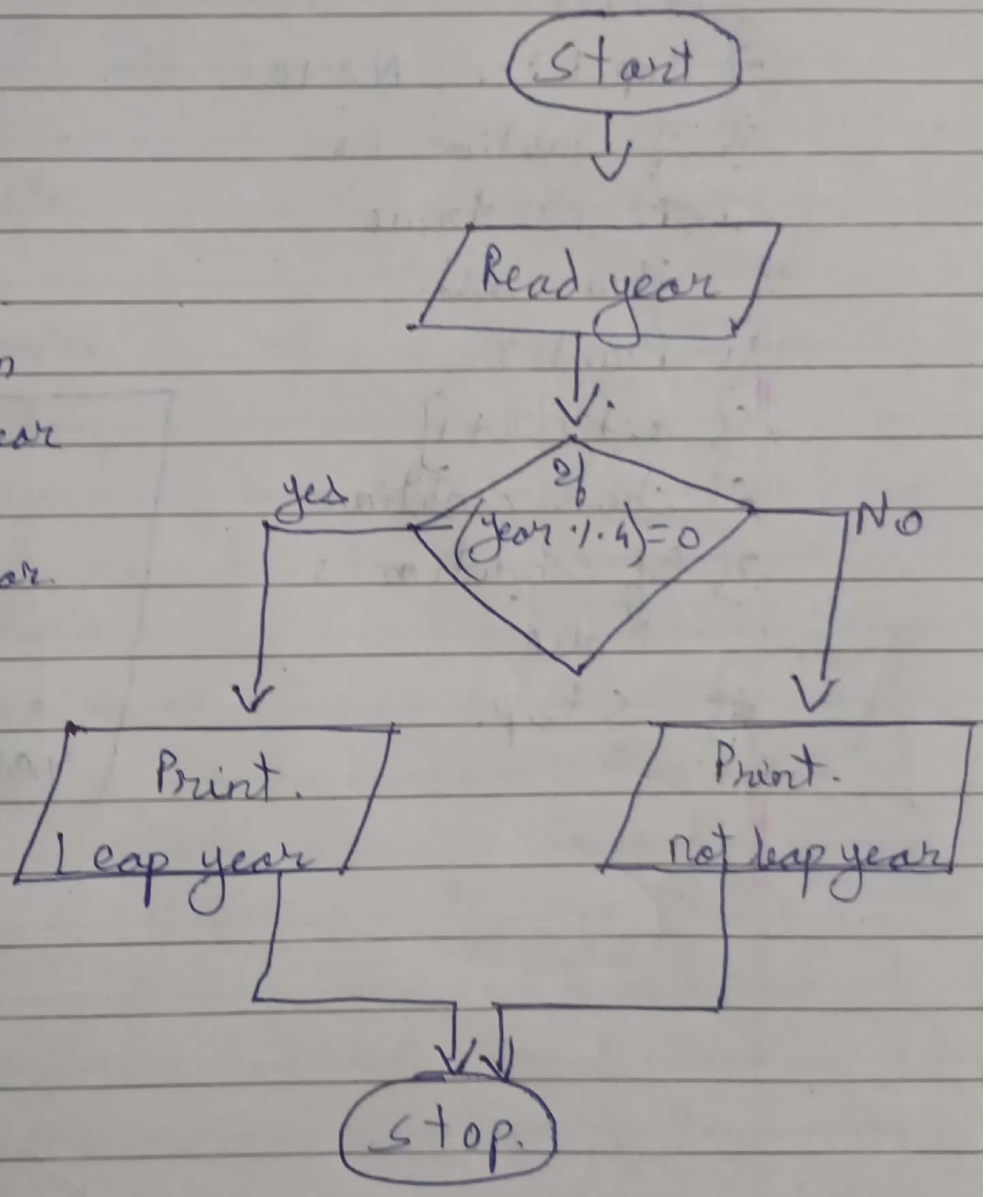
06] Write a Java program to find whether a given number is Leap year or NOT.

→

Algorithm.

1] start.
2] Read year
~~3] if (rem = 0)~~
3] rem = year % 4.
4] if (rem == 0) then
   it is a leap year
   else
   it is not leap year.
5] stop.

Flowchart.

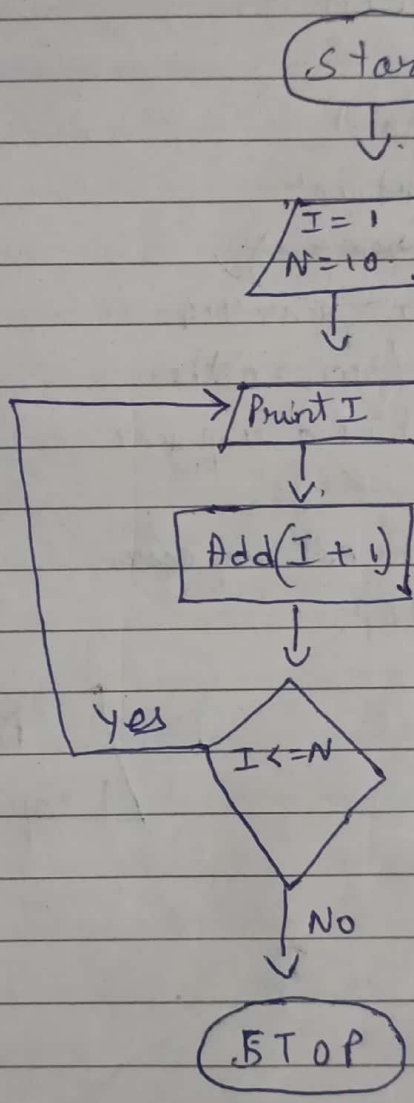


07] Write a Java program to print 1 to 10 without using loop.

→ Algorithm

1] start.
2] Input i=1 N=10.
3] If condition is I<N is true then ~~add~~.
4] Print I
5] add (I+1)
6] check condition.
7] If condition is False.
8] stop.

Flowchart.



02} Write a Java program to print the digits of a given number?

Algorithm

1} Start.

~~2} Input -> a = i/p (user)~~
~~int d;~~

2} Input -> Number to prints its digit.

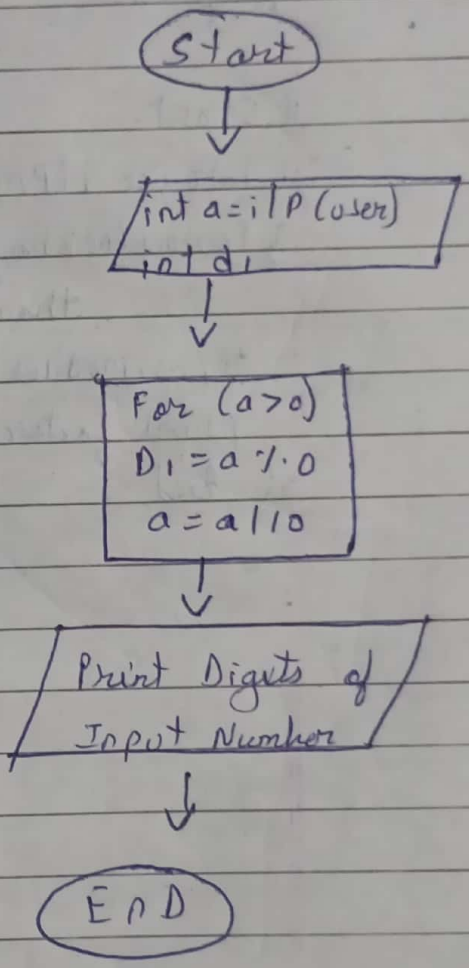
3} condition -> For a is greater than Zero number
Value = Number % 10.
Number = Number / 10.

4} Process -> Print the Number

5} Output -> Digits of input Number

6} End.

Flowchart.

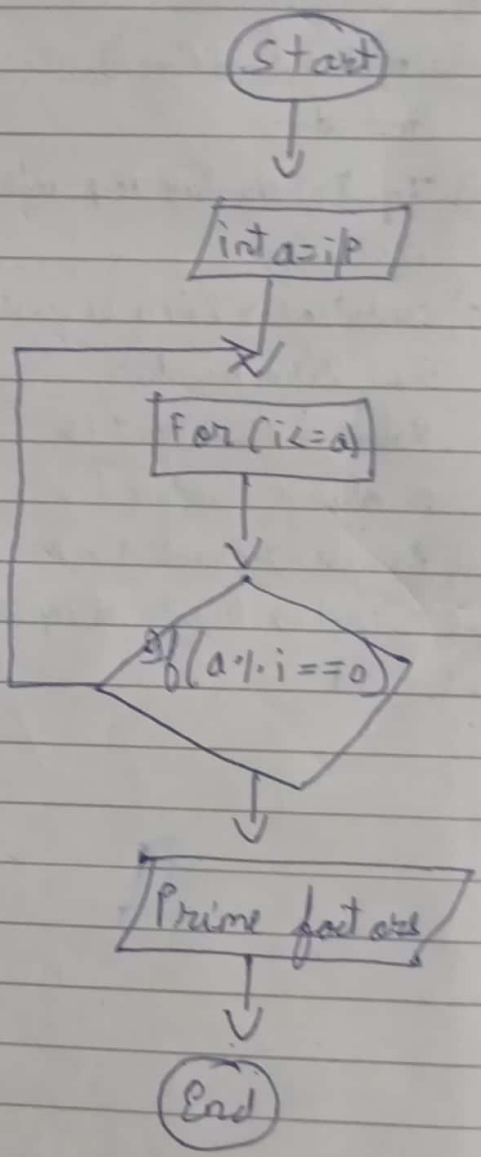


09] Write a Java program to print all the factors of the Given Number.

Algorithm

1] Start.
2] take use ilPno.
3] for loop (no should be greather than).
   if (no. modules is equal to zero)
   print factor.
4] End.

Flowchart.

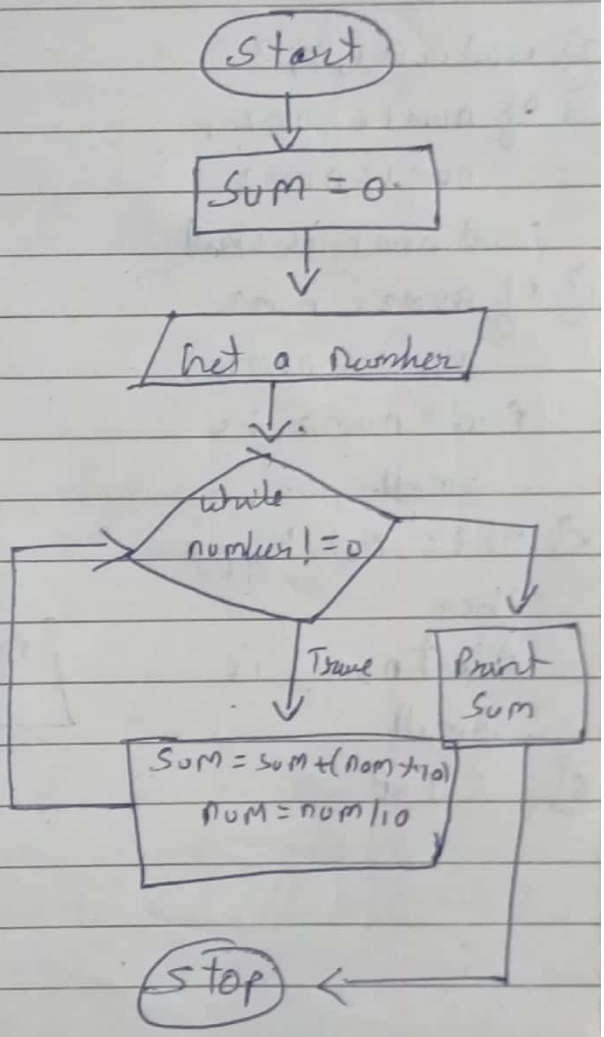


Q. Write a java program to find the sum of the digits of the given number

Algorithm.

1) start.
2) Get a number
3) Set num = 1
4) while (number != 0)
   Sum = sum + (number % 10)
   Num = num / 10.
5) Print sum
6) Stop.

Flowchart.

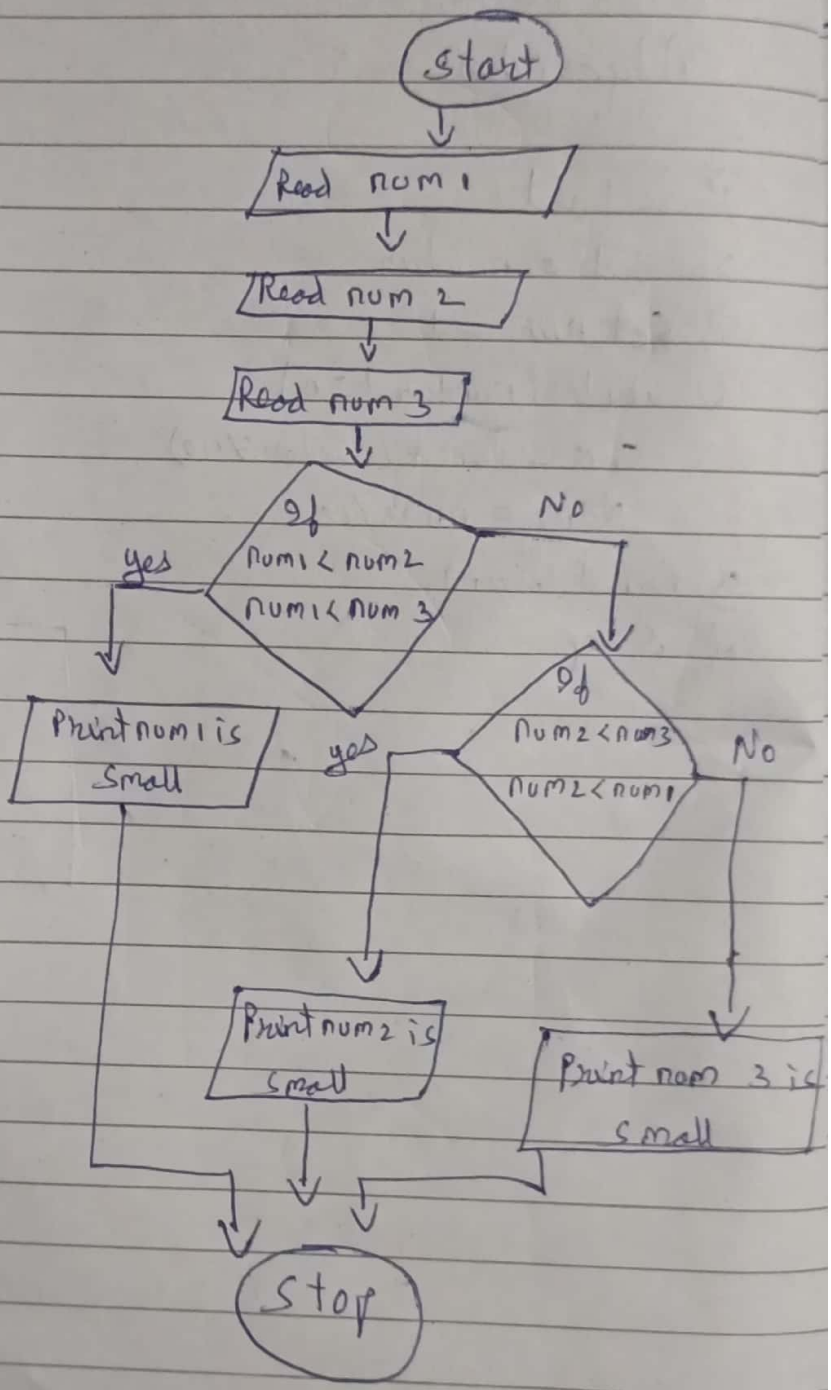


Q11) Write a Java program to find the smallest of 3 Number (a,b,c)

Flowchart.

Algorithm

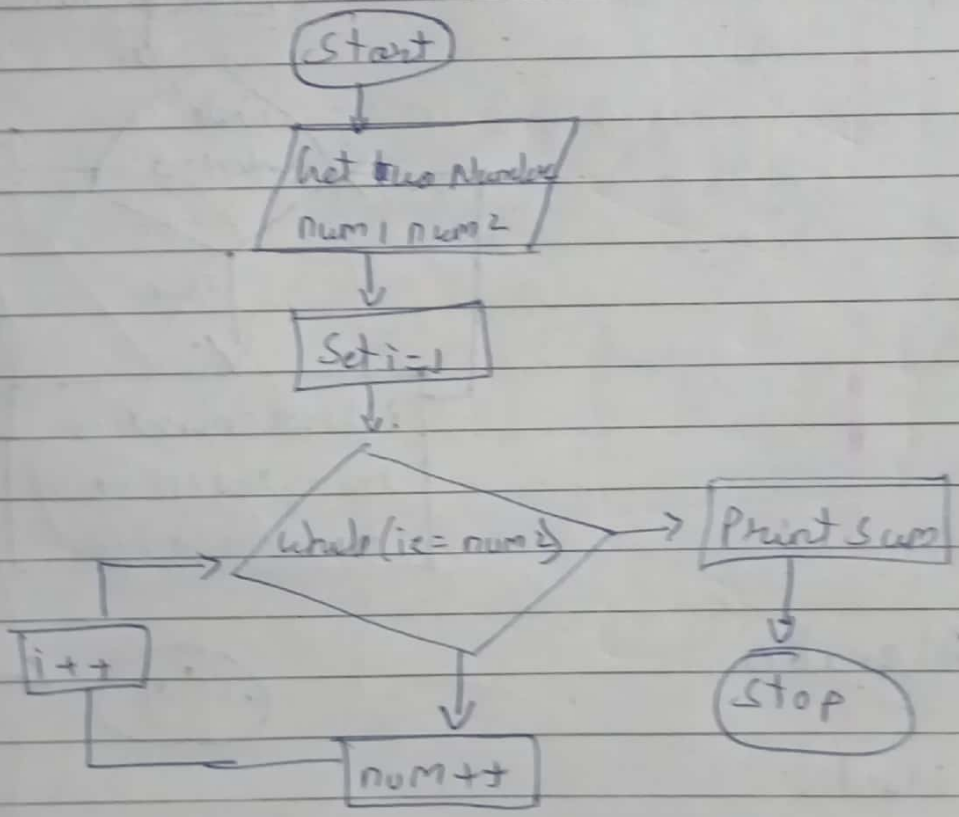
1) Start.
2) Read num 1, 2, 3
3) If num1 < num2, num1 < num3
   Print num1 is small.
4) If num2 < num3
   num2 < num1.
   Print num2 is small.
5) If is Not happen then
   Print num 3 is small.
6) STOP.



Q12) How to add two numbers without using the arithmetic operators in Java?

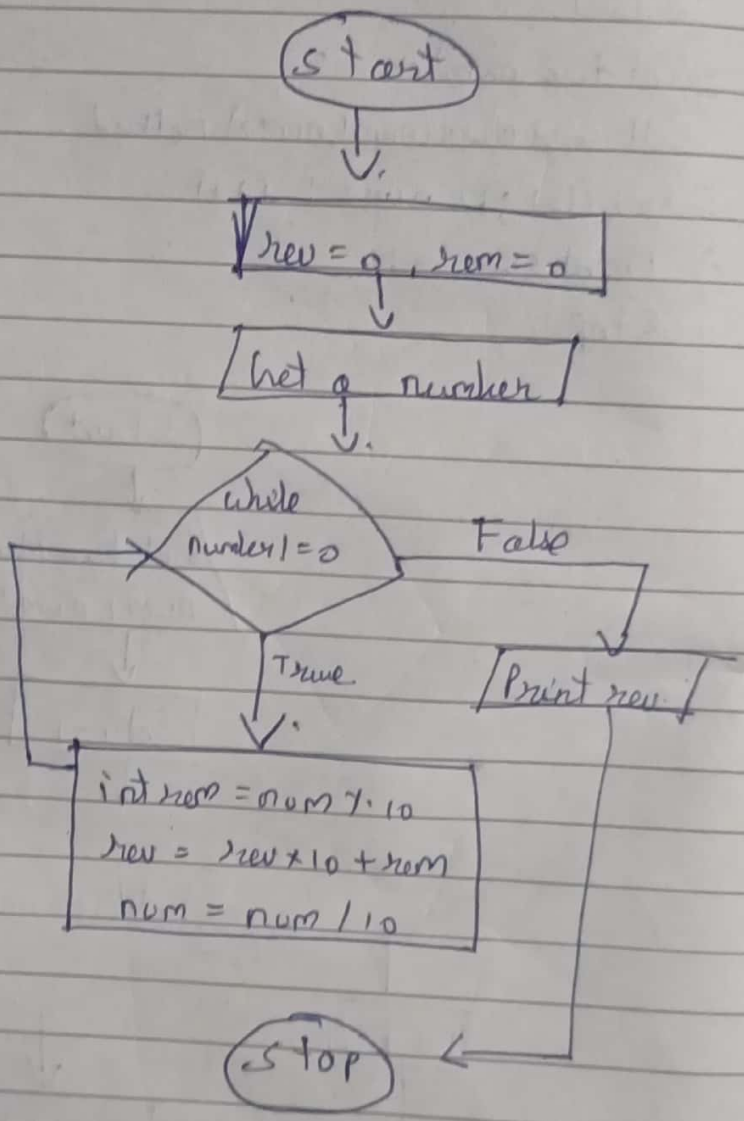
→ Algorithm:

1. Start
2. Get two numbers
3. call addNum(num1, num2) method
4. for (i=1; i<num2; i++)
5) Print sum
   Stop



Q13] Write a Java program to Reverse a given Number.

Flowchart.



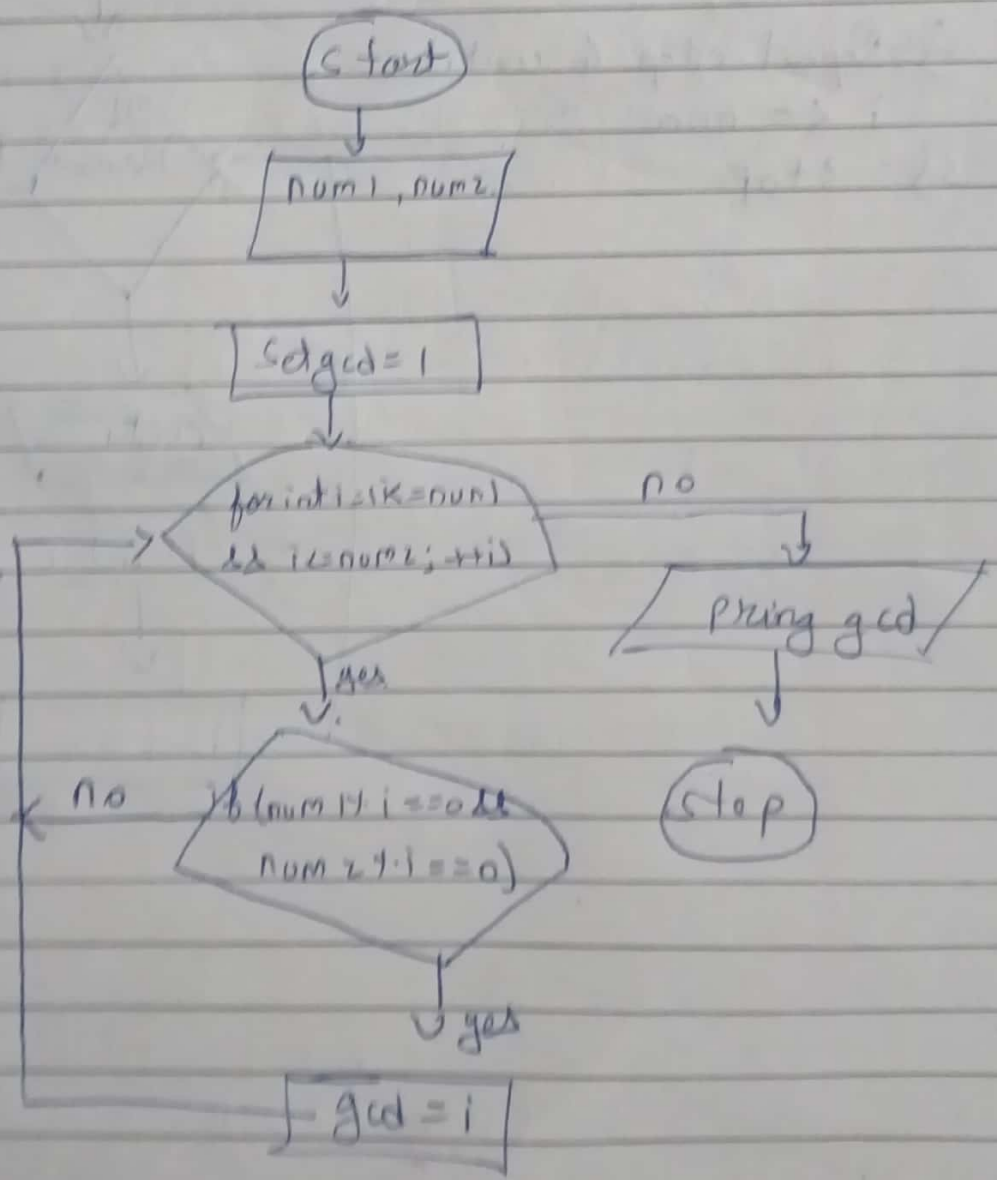
Algorithm.

1] Start.
2] Get a number
3] set rem = 0, rev = 0.
4] while (number != 0).
   a] int rem = num % 10
   b] rev = rev * 10 + rem
   c] num = num / 10.
5] Print rev.
6] stop.

Q16) Write a Java program to find the GCD of two given numbers

=> Algorithm

1) Start
2) Get two numbers num1, num2
3) Set gcd = 1
4) for(int i = 1; i <= num1 && num2; ++i)
   if (num1 % i == 0 && num2 % i == 0)
5) Print GCD
6) Stop

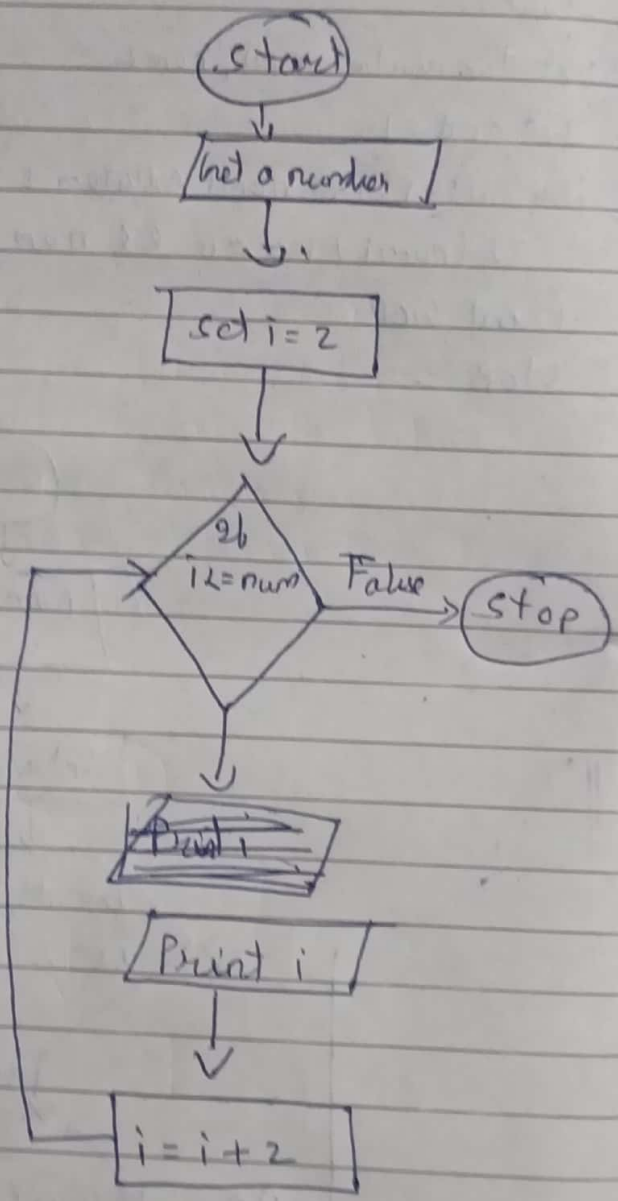


Q19} To Print Even number series

Algorithm.

1} start.
2} Get a num from user upto which they want to print even number
3} set i = 2
4} i <= num, print i and i = i + 2
5} Repeat step 4 until i <= num
6} stop

Flowchart

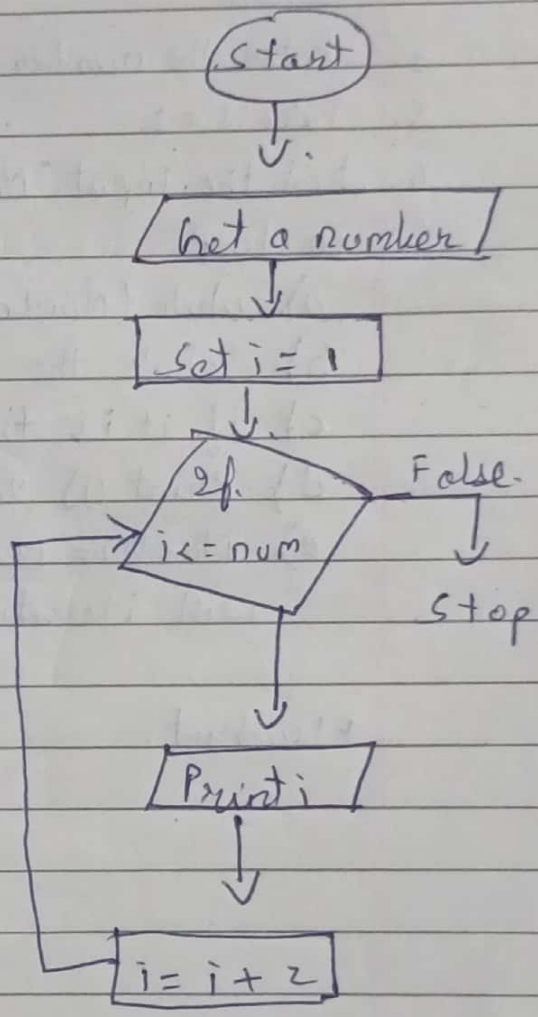


22) To print odd number series

Algorithm.

1) start.
2) Get a num from user upto which they want to print even number.
3) set i=1
4) If i<= num, Print i and i=i+2, Else go to step 6.
5) Repeat step 4 until i<= num
6) stop.

Flowchart.



15) Prime factors of given number

→

Algorithm.

1. Start
2. Enter the number
3. Take i = 2
4. Check the input Number i.e greater than, enter in loop.
   a) while (Number i.e greater than 1)
   b) check the condn if (Number % i == 0)
   c) if it is true enter in bracket.
   d) print (i) value on terminal.
   e) Number = Number / I else i++ then loop will iteration again.

Flowchart.