

# Assignment No. 1

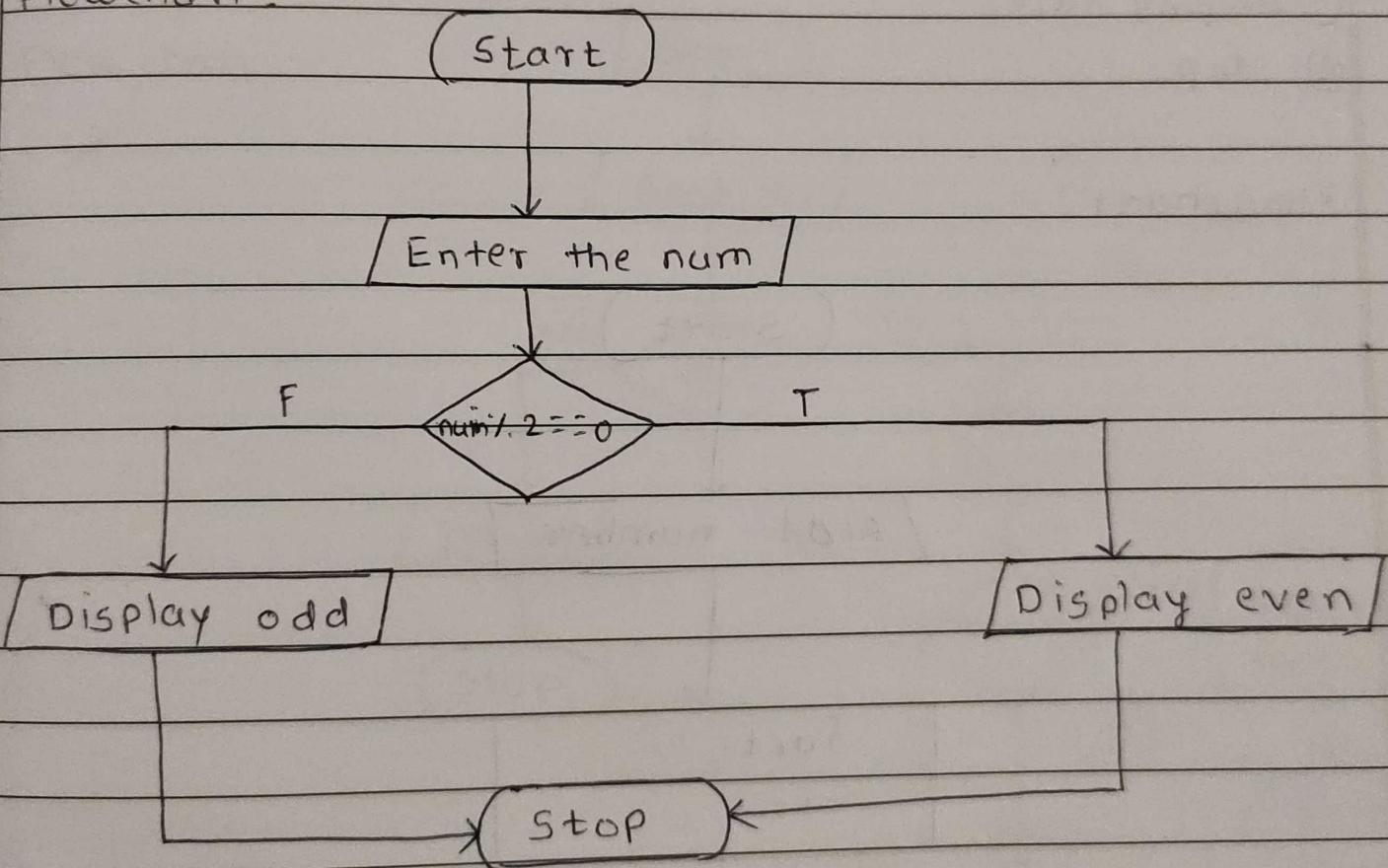
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1] Check if the given number is even or odd.

Algorithm :-

- ① Start
- ② Read num
- ③ if no. divisible by 2 go to step ④ else step 5
- ④ Display "Even" & stop
- ⑤ Display "Odd" & stop

Flowchart :

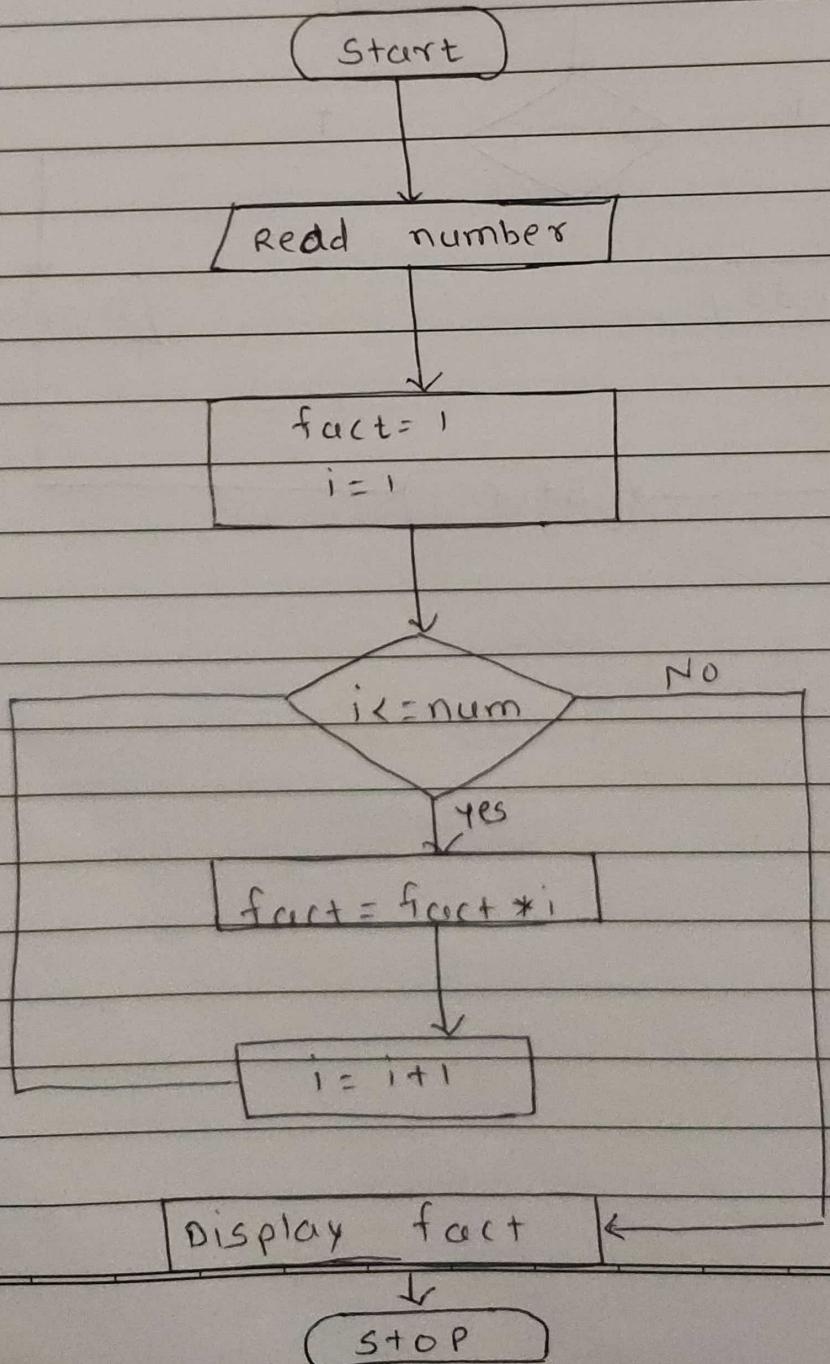


2] Write a java program to find Factorial of a given number

Algorithm

- ① Start
- ② read number
- ③ fact=1, i=1
- ④ check  $i <= \text{number}$  if false go to 7
- ⑤ fact= fact+i
- ⑥ update:  $i = i + 1$  go to step 4
- ⑦ display fact
- ⑧ Stop

Flowchart:



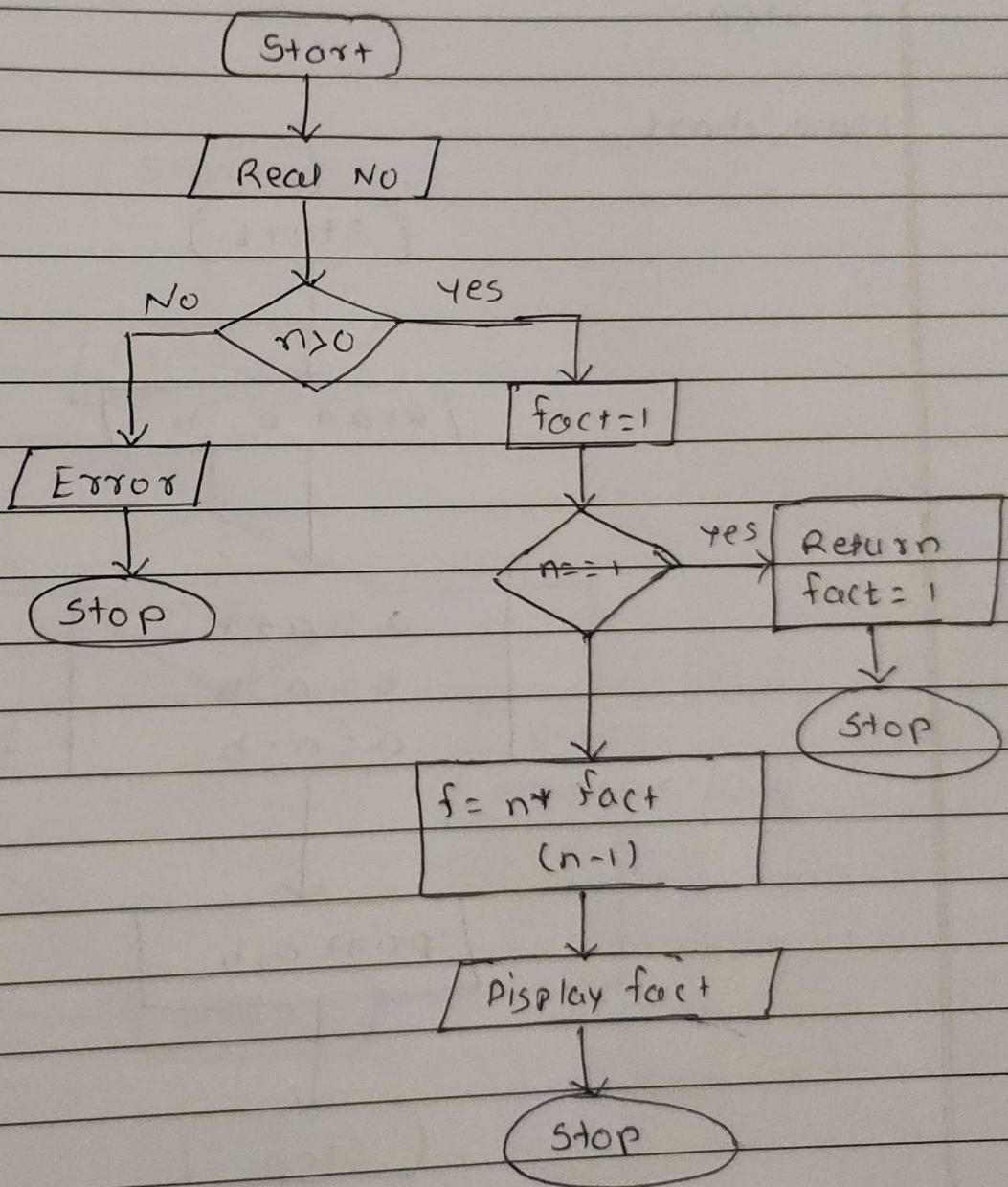
3]

Find factorial of a number using Recursion.

Algorithm:-

- ① Start
- ② Read No "N"
- ③ if  $n=1$  then return 1  
else  $f = n * \text{factorial}(n-1)$
- ④ Display fact
- ⑤ Stop

Flow chart:-

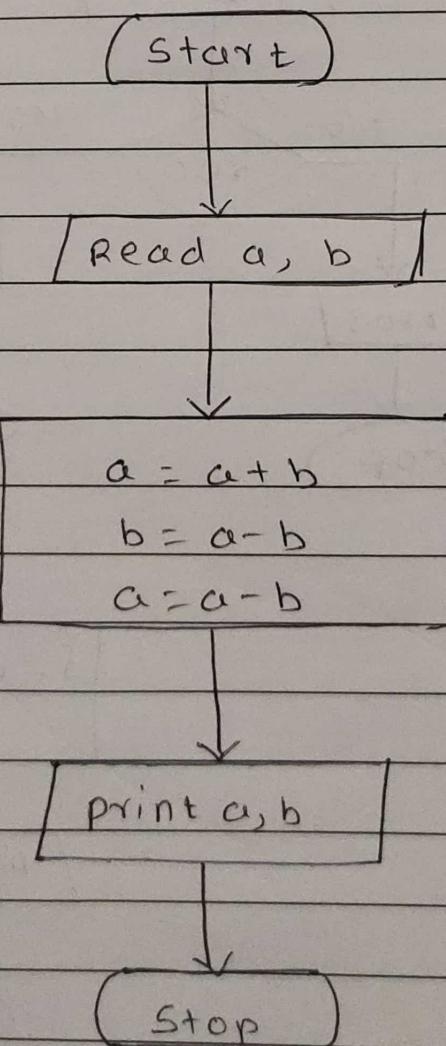


47 swap two number without using third variable approach

Algorithm:

- ① start
- ② read a, b
- ③  $a = a + b$
- $b = a - b$
- $a = a - b$
- print a, b
- stop

Flow chart:



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How to check whether the given no. is positive or negative

Algorithm:

① Start

② Read n

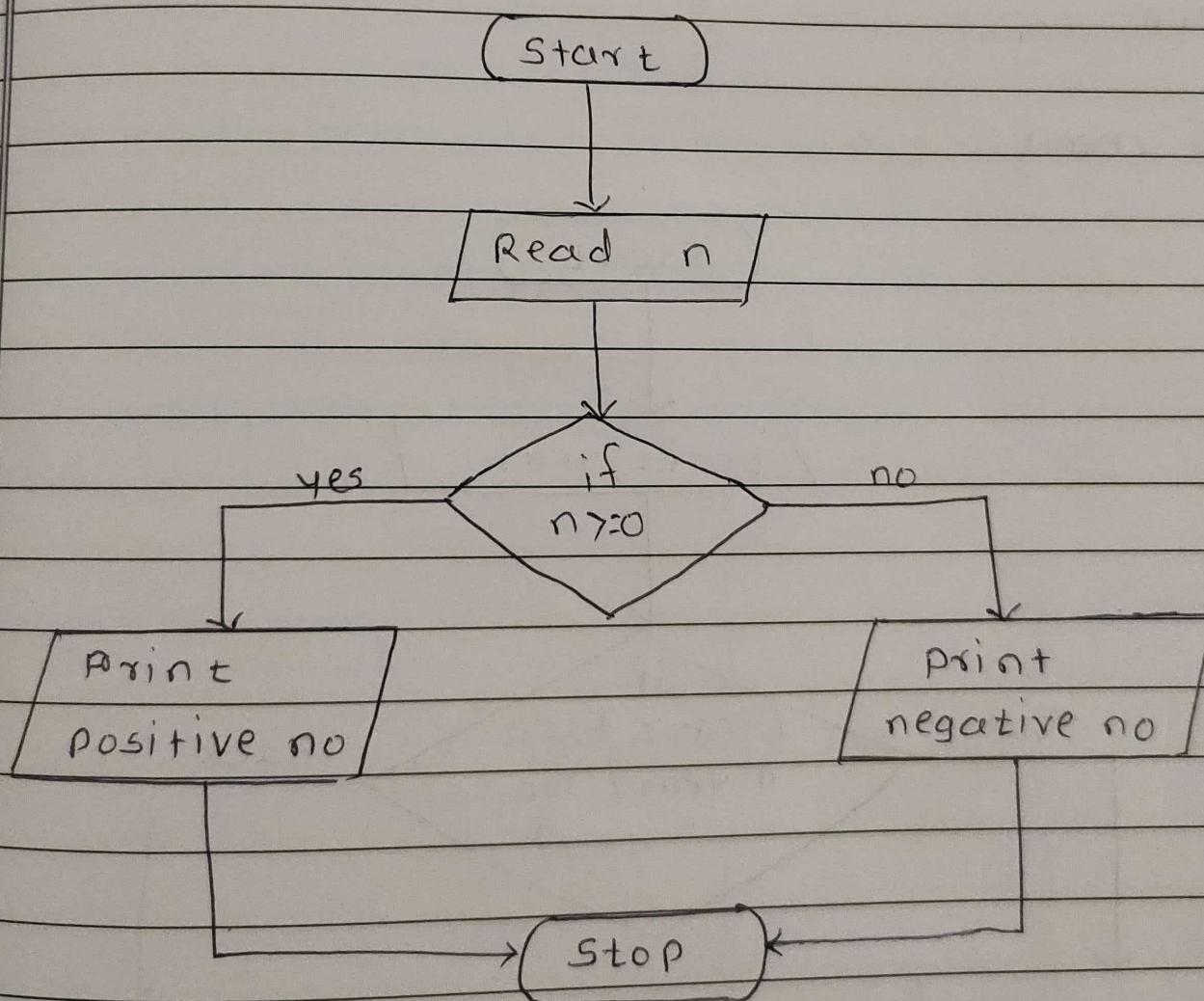
③ if ( $n \geq 0$ ) then

print n is positive no.

else

print n is negative no.

Flow chart:



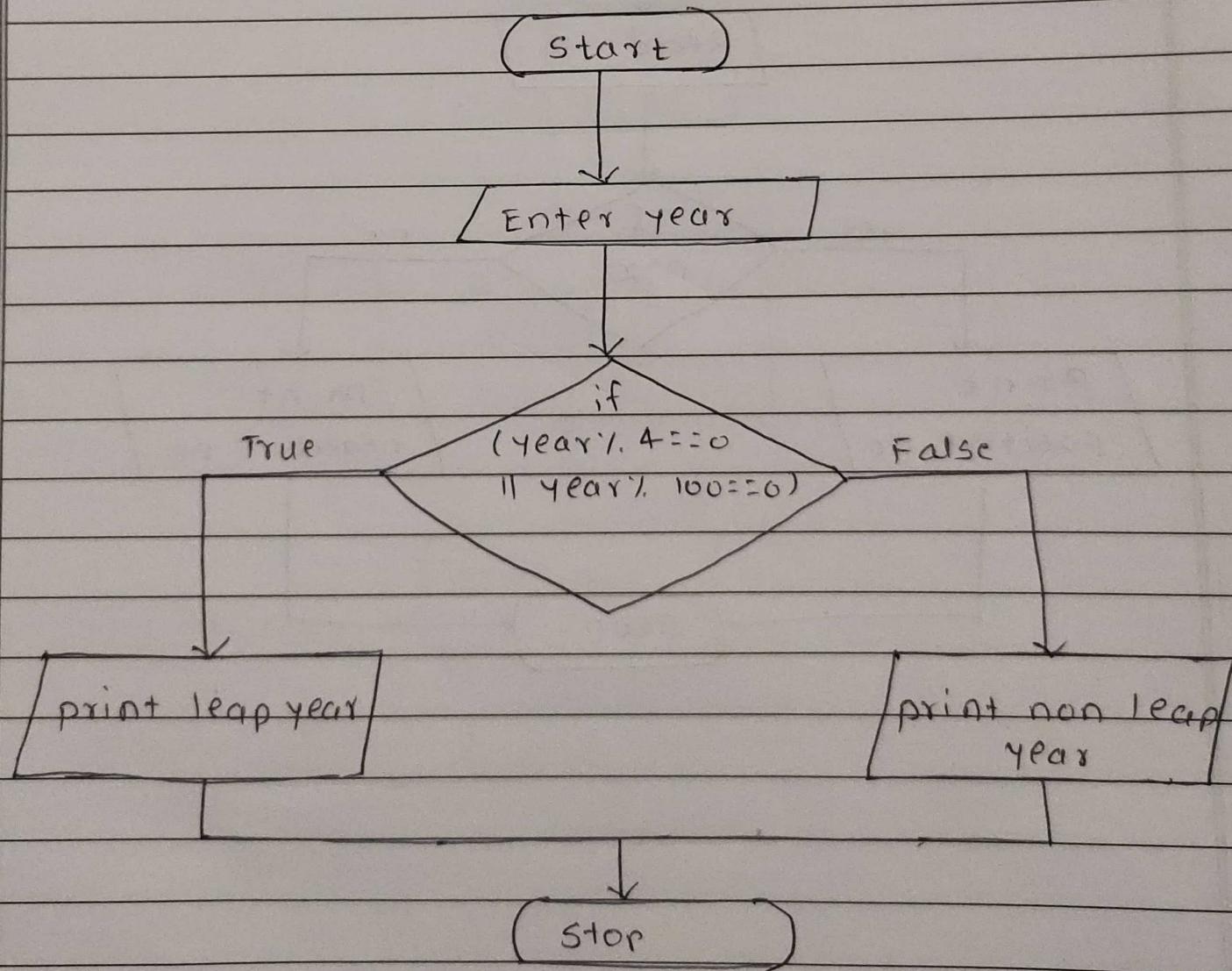
67

Write java program to find whether a given no. is leap year or not.

Algorithm

- ① Start
- ② Enter year
- ③ if ( $\text{year} \% 4 == 0$  ||  
 $\text{year} \% 100 == 0$ )  
    print leap year  
else  
    print non leap year
- ④ Stop

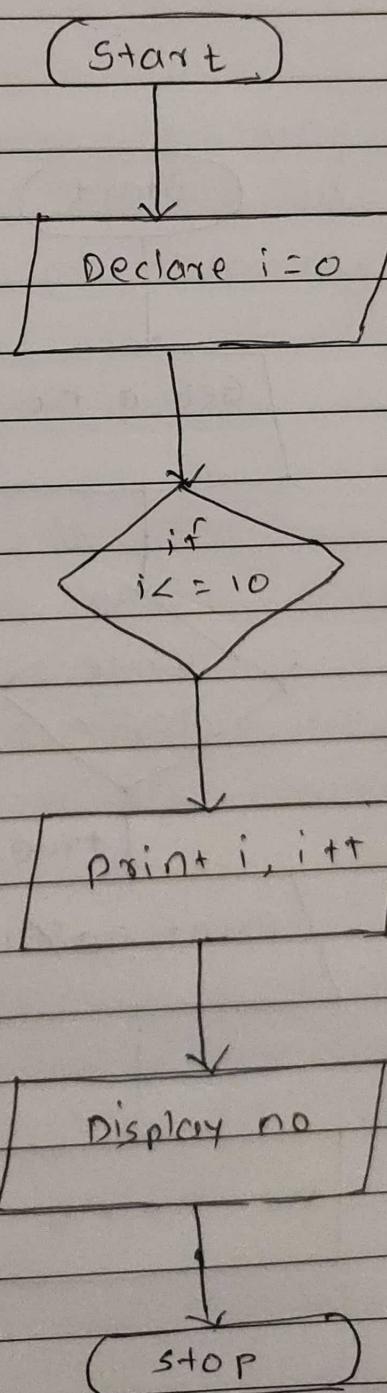
Flow chart:



7) Write a program to print 1 to 10 without using loop  
algorithm:

- ① Start
- ② declare variable  $i = 0$
- ③ if ( $i \leq 10$ )  
    print  $i, i++$
- ④ Stop

Flow chart:

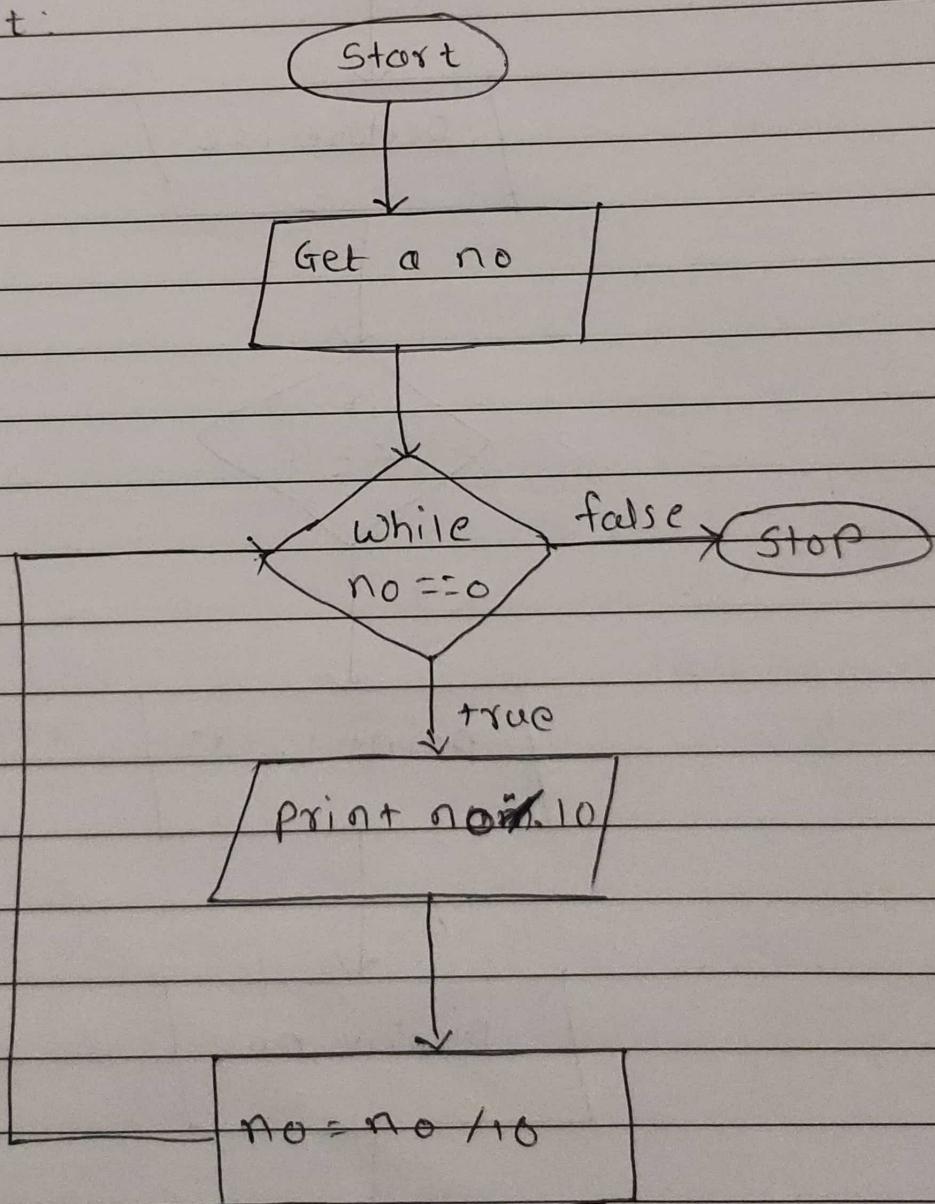


87 Write a java program to print + to print digit of given number

Algorithm:

- ① Start
- ② get a no.
- ③ print value of no % 10
- ④ no = no / 10
- ⑤ Repeat step 3 to 4 until no is not equal to zero
- ⑥ stop

Flow chart:

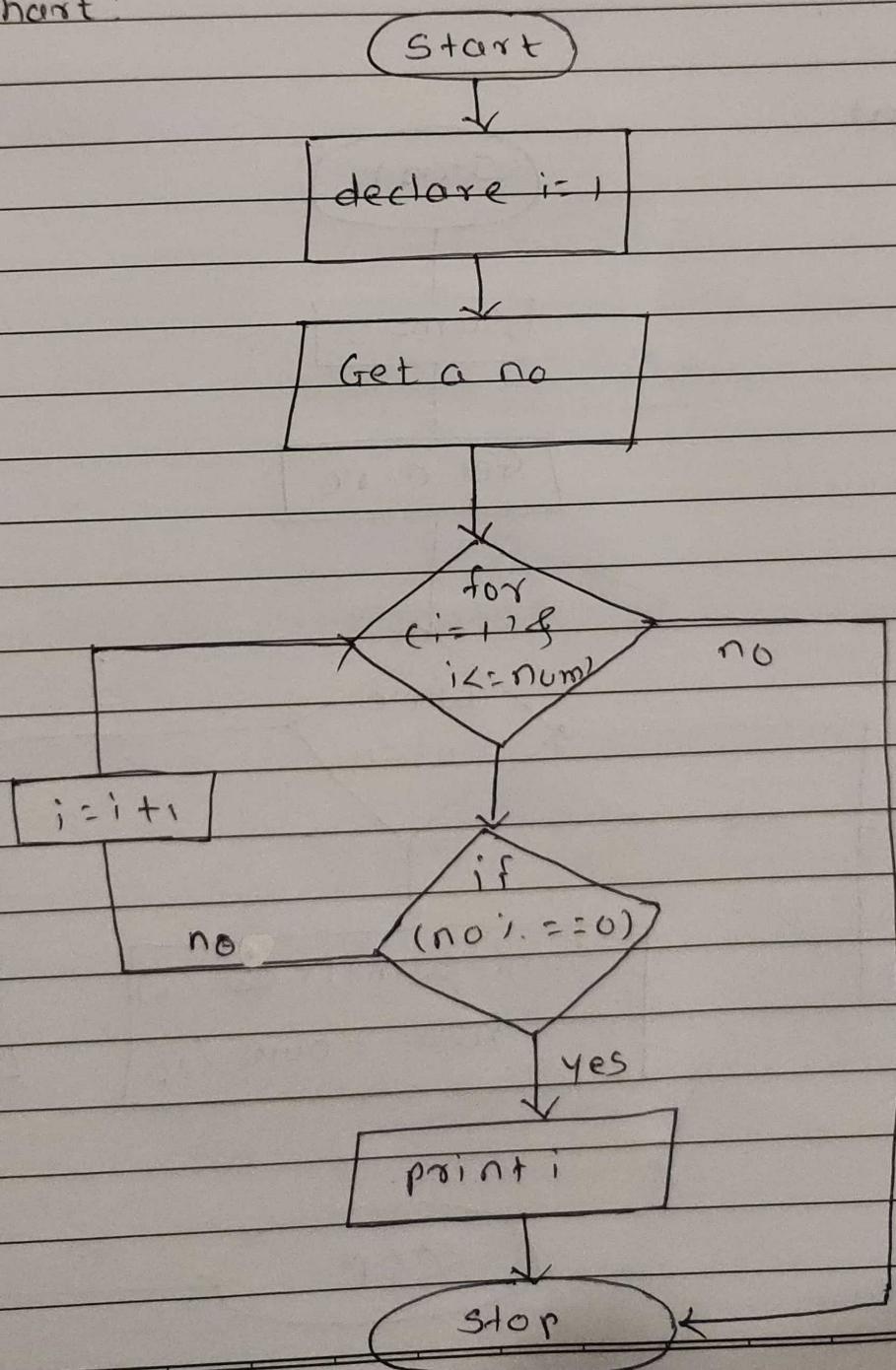


a7 Write a java program to print all factors of a given no.

Algorithm:

- ① Start
- ② get a no
- ③ Declare  $i = 1$
- ④ check  $no \times i == 0$  if true print  $i$  & increment value of  $i$
- ⑤ Repeat step 4 until  $i < no$
- ⑥ Stop

Flow chart:



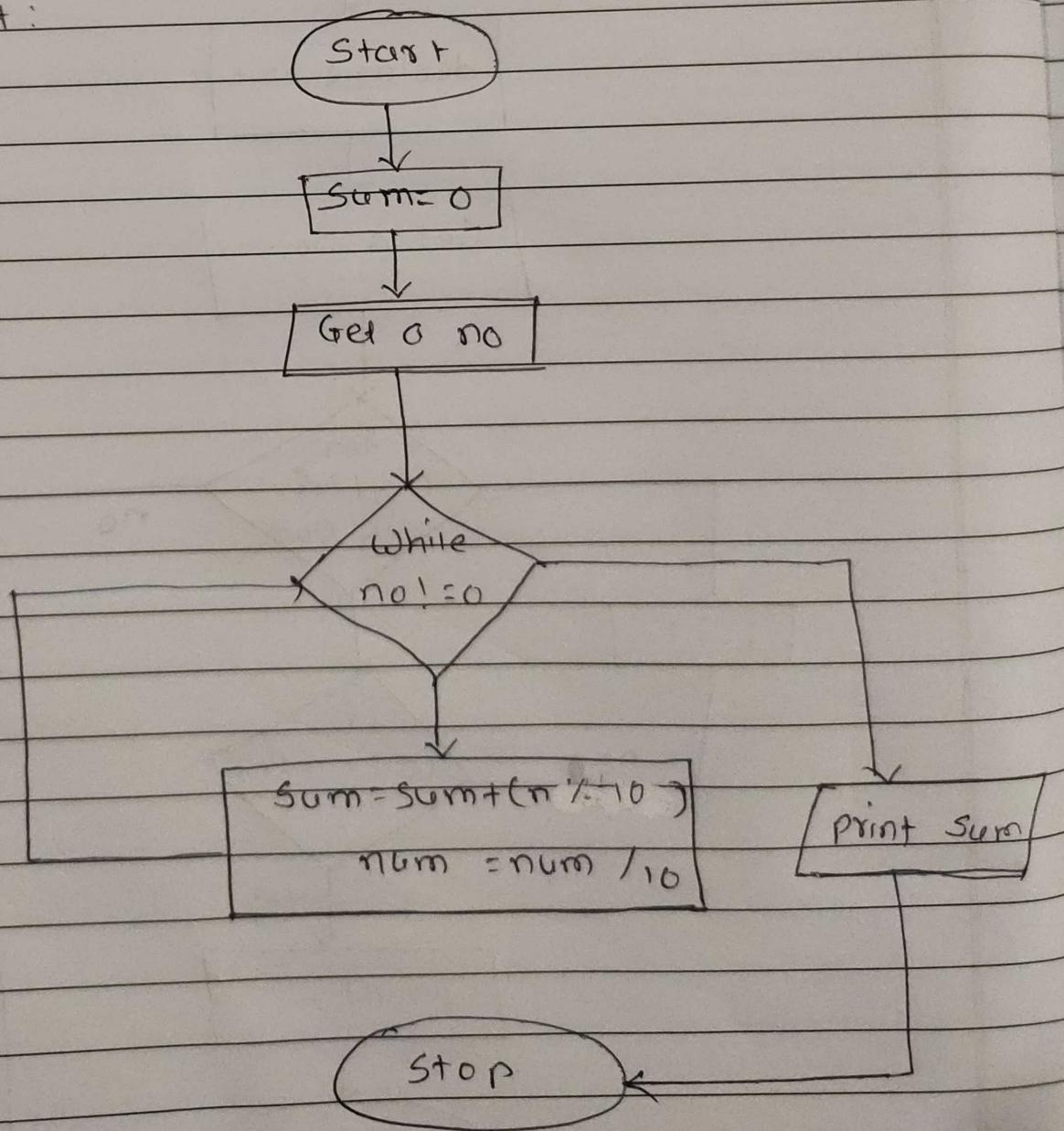
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10] Write a java program to find the sum of the digits of a given number.

Algorithm:

- ① Start
- ② Get a no
- ③ Set sum = 1
- ④ while ( $no \neq 0$ )  
    Sum = sum + ( $no \% 10$ )  
    num = num / 10
- ⑤ print sum
- ⑥ Stop

Flow chart:

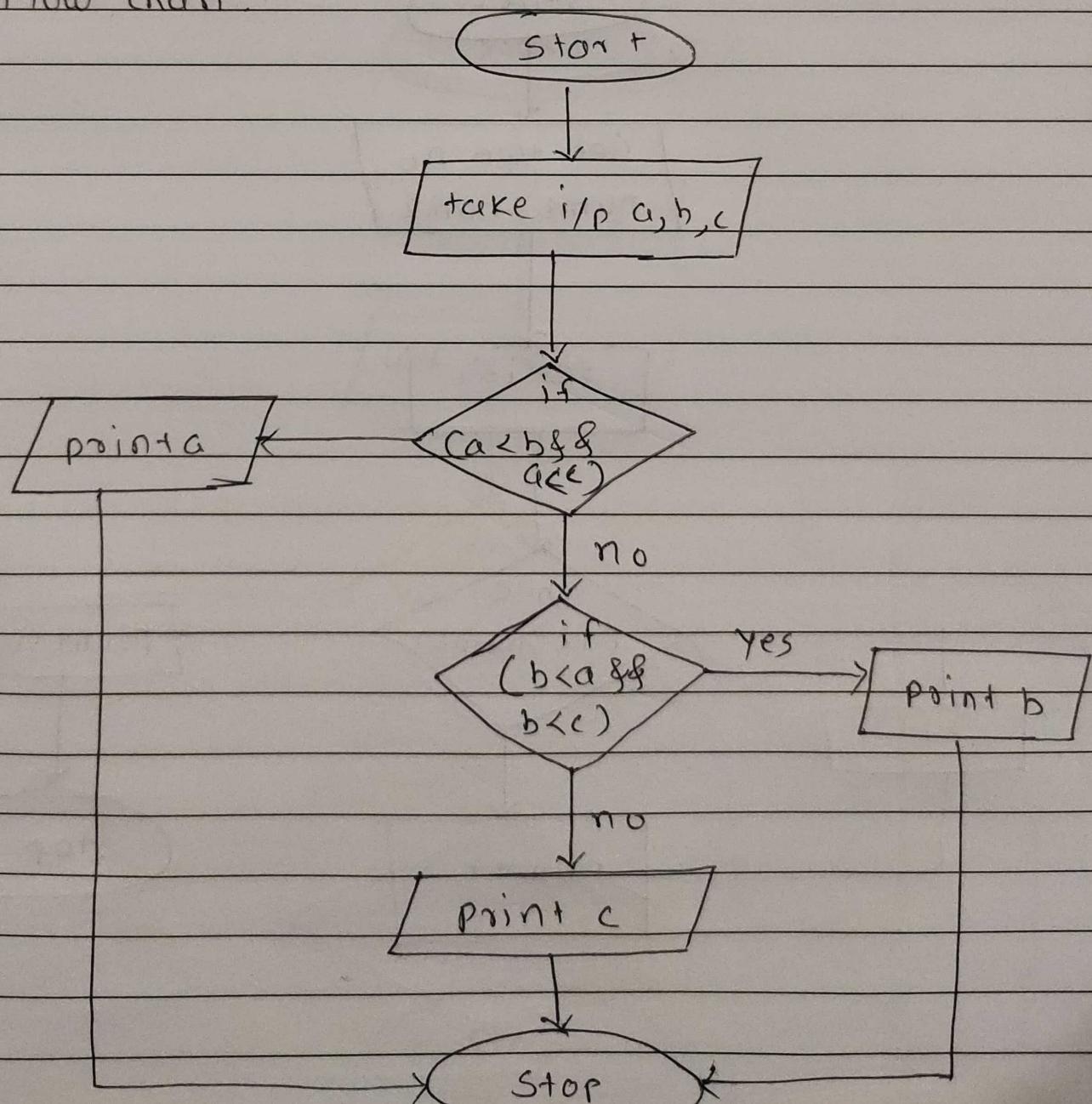


11] write a java program to find smallest of 3 no.  
(a, b, c)

Algorithm

- ① Start
- ② get 3 no. from user
- ③ check if  $a < b$  &  $a < c$  if true print a & exit else go to step 4
- ④ check if  $b < a$  &  $b < c$ , if true print b & exit else go to step 5
- ⑤ print c
- ⑥ Stop

Flow chart:

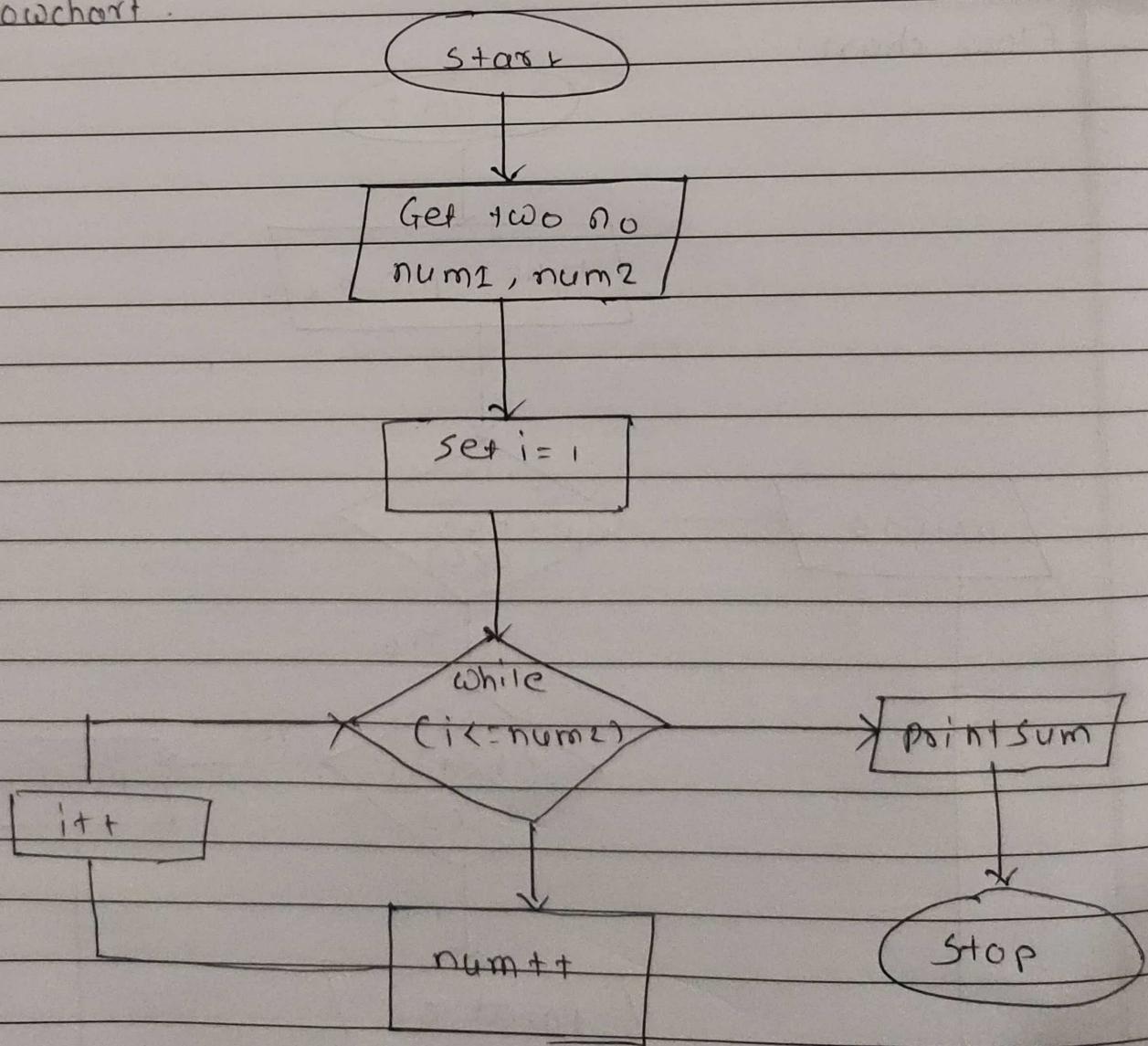


12] How to add two no without using the arithmetic operator in java

Algorithm :

- ① Start
- ② Get two no.
- ③ Call addNum(num1, num2) method
- ④ For ( $i=1; i \leq num2; i++$ )
  - a. num1++
- ⑤ print sum
- ⑥ Stop

Flowchart :

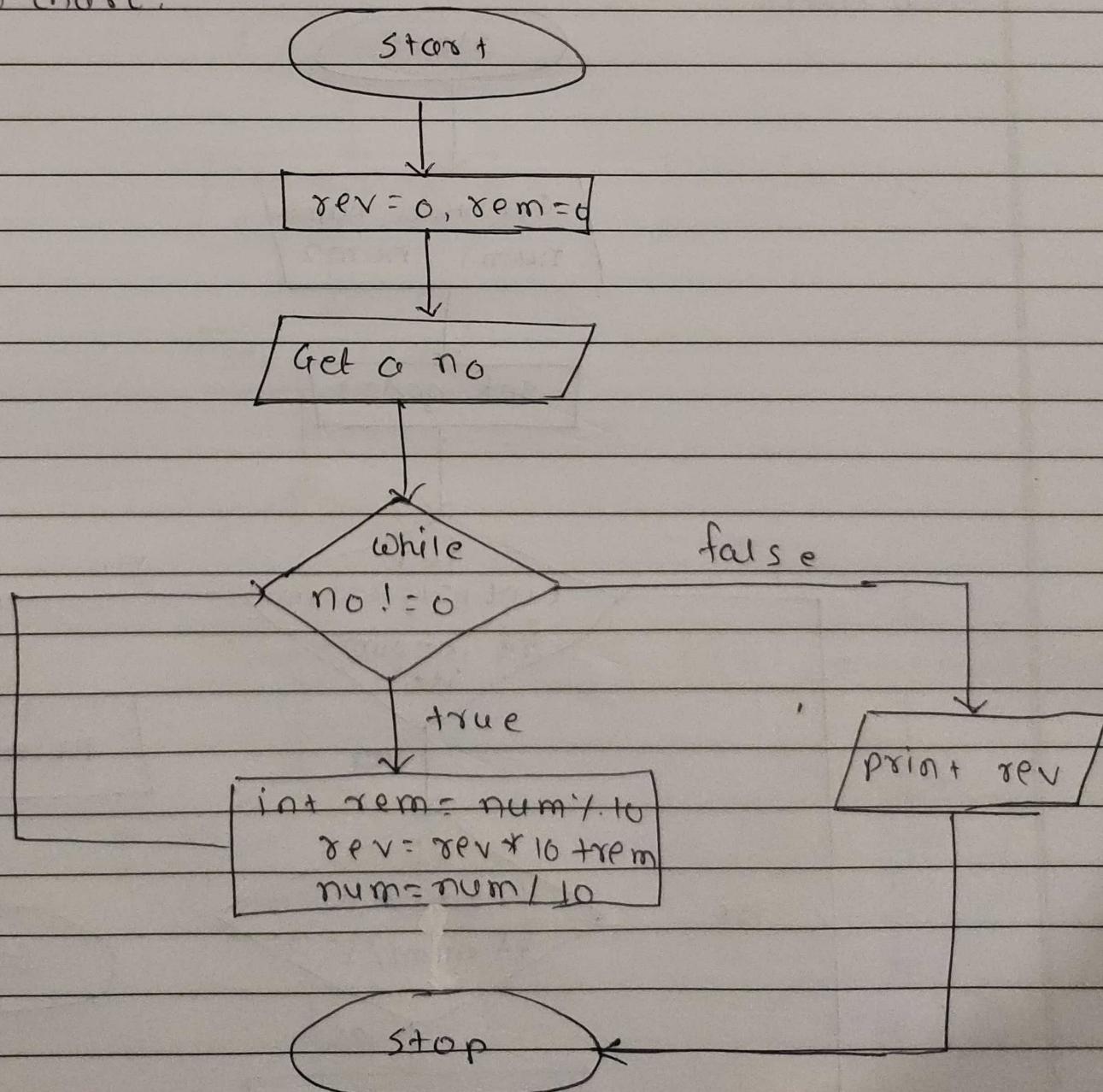


13] Write a java program to reverse a given no.

Algorithm:

- ① Start
- ② Get a no
- ③ set  $rem = 0$ ,  $rev = 0$
- ④ while ( $no \neq 0$ )
  - a.  $int rem = num \% 10$
  - b.  $rev = rev * 10 + rem$
  - c.  $num = num / 10$
- ⑤ print  $rev$
- ⑥ Stop

Flow chart:



14) Write a java program to find the GCD of two given no.

Algorithm

- ① Start
- ② Get two number num1, num2

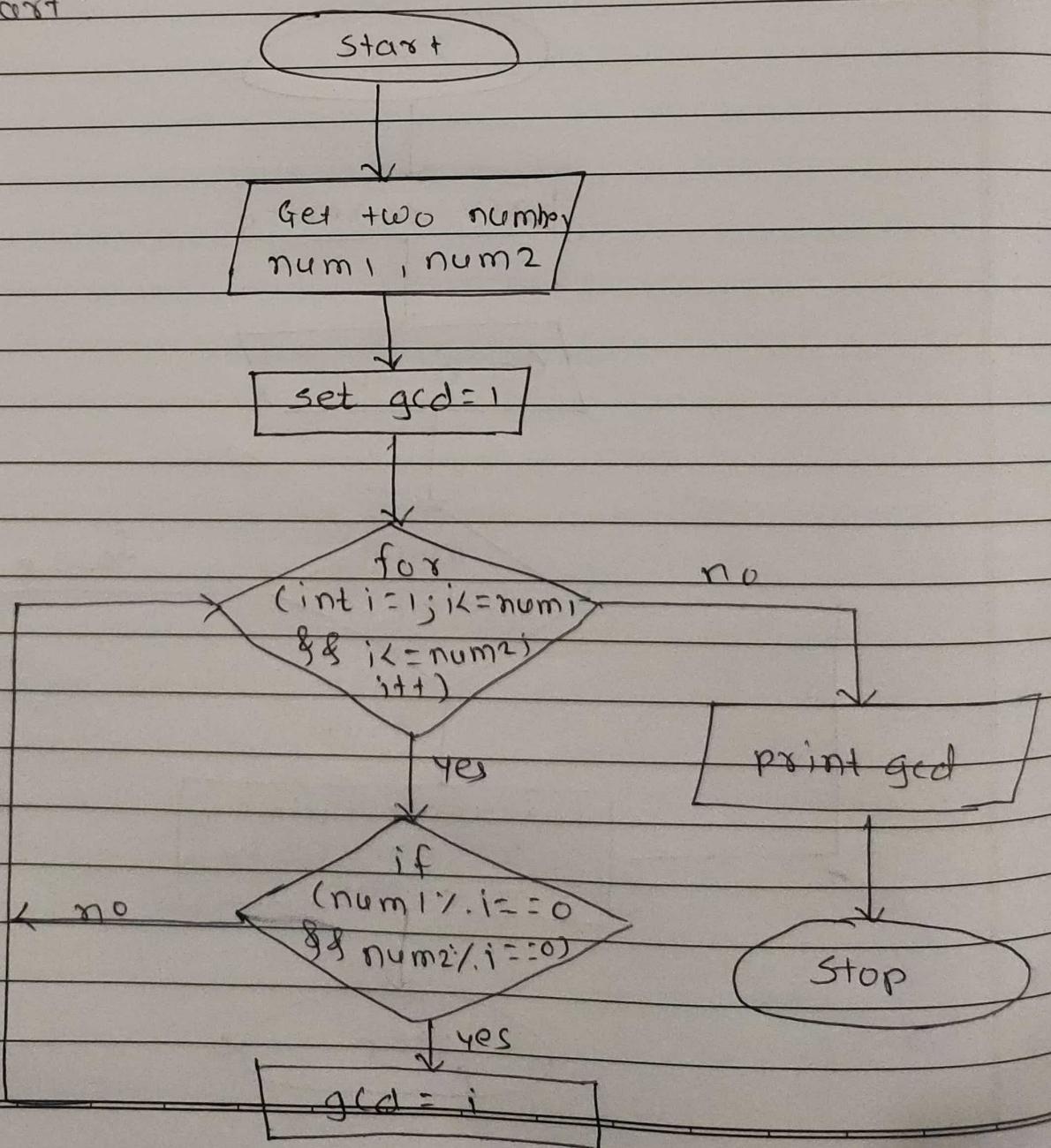
③ set gcd = 1

④ for (int i=1; i<=num1 && i<=num2; i++)  
if (num1 % i == 0 && num2 % i == 0)  
set gcd = i

⑤ print GCD

⑥ Stop

Flow chart:

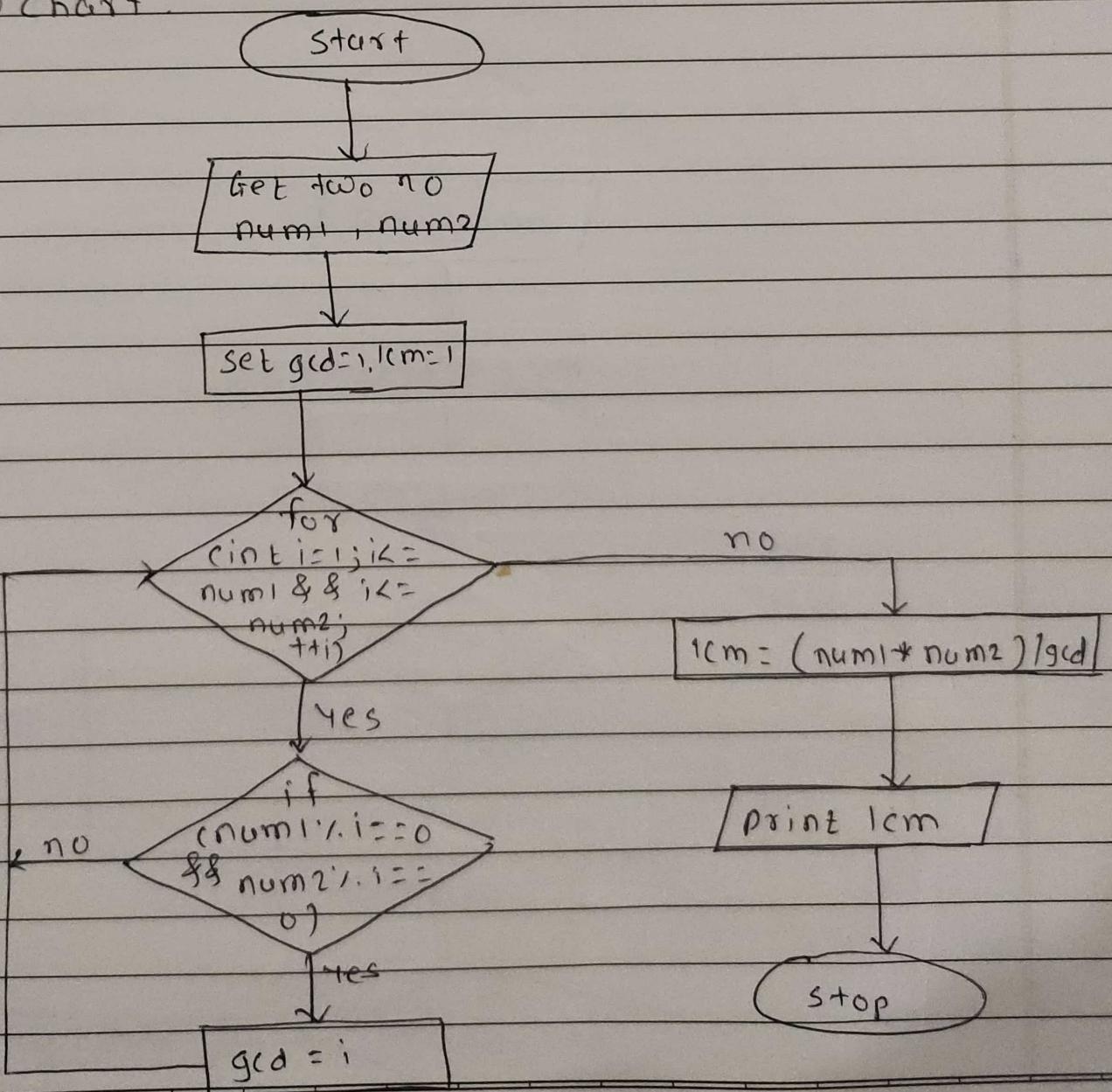


157 Write a java program to LCM of two given no.

Algorithm:

- ① Start
- ② Get two no num1, num2
- ③ Set gcd = 1
- ④ for (int i=1; i<= num1 && i<= num2; ++i)  
    if (num1 % i == 0 && num2 % i == 0)  
        set gcd=i
- ⑤ lcm = (num1 \* num2) / gcd
- ⑥ print LCM
- ⑦ Stop

Flowchart:



## 17) check Palindrome number or not

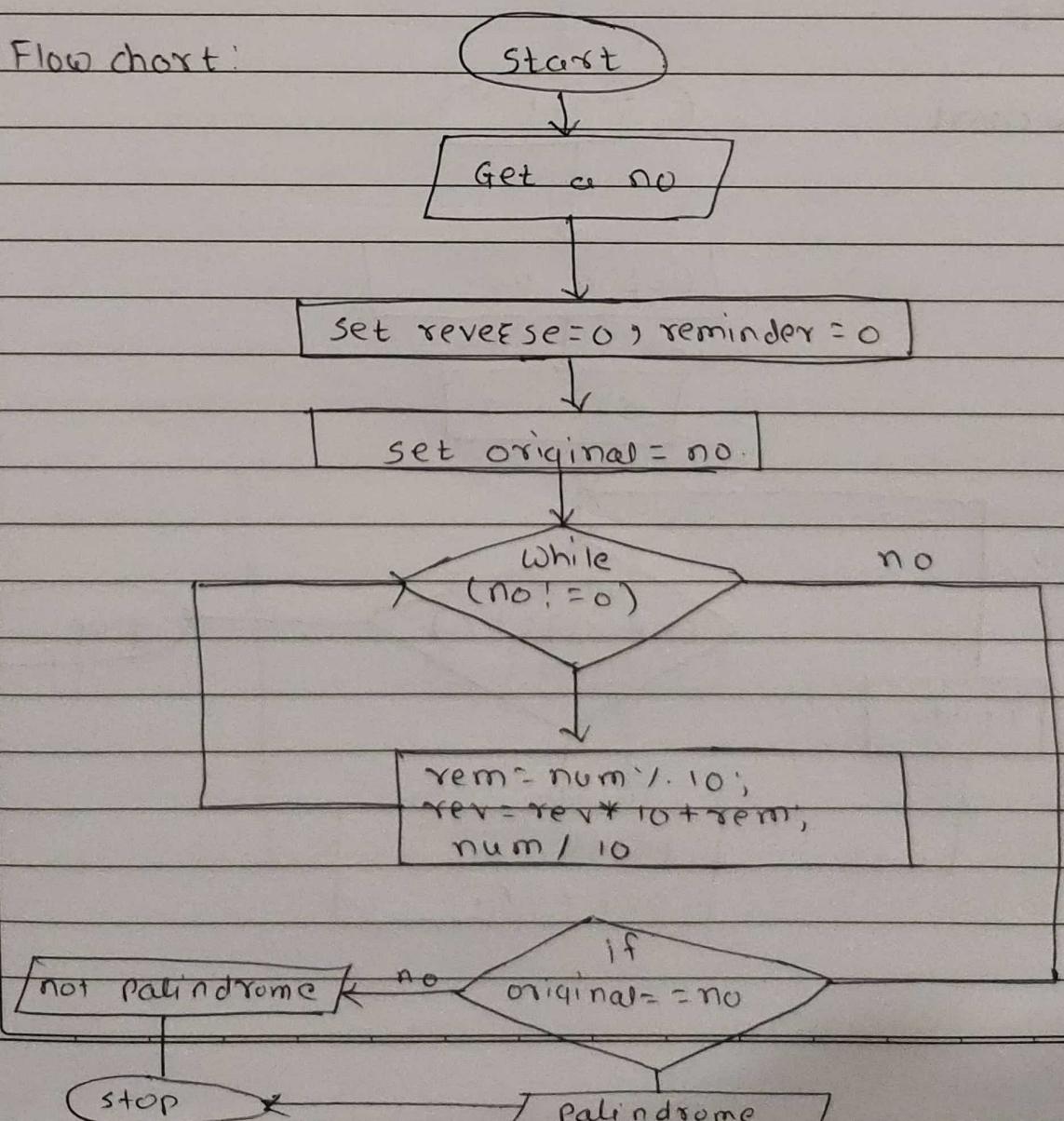
Algorithm

- ① Start
- ② get a no.
- ③ set reverse=0 & remainder = 0
- ④ set original-number
- ⑤ check number != 0 if true go to 6 else goto 7
- ⑥ rem = num % 10;  

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

$$\text{num} / 10$$
- ⑦ check if original == no if true print palindrome else  
 print not palindrome
- ⑧ Stop

Flow chart:

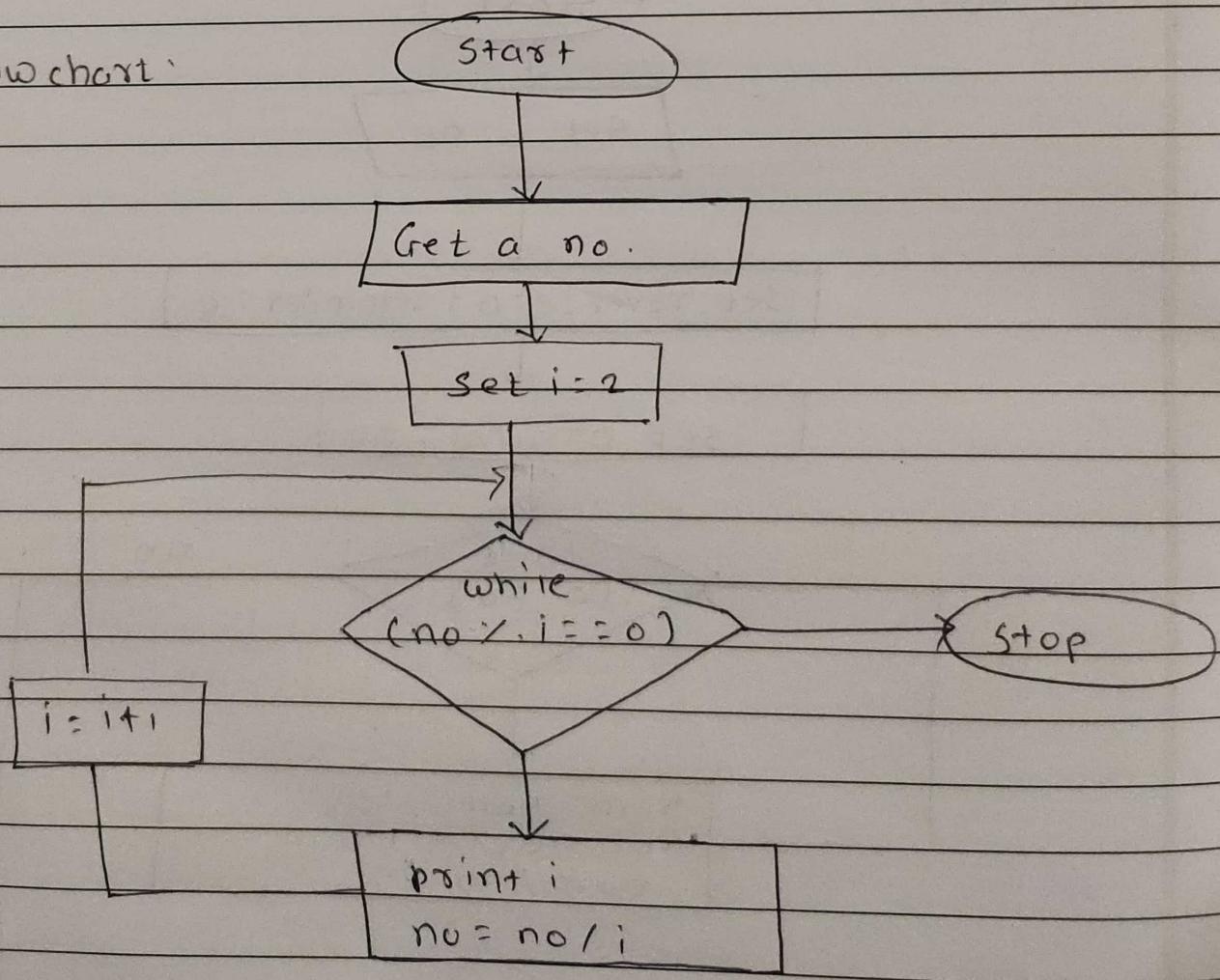


18.] Write a java program to print all the prime factors of given no.

Algorithm :

- ① Start
- ② Enter the no
- ③ take  $i=2$
- ④ check the i/p no is greater than then enter in loop
  - a. while( $no > 1$ )
  - b. check the condition if ( $no \% i == 0$ )
  - c. if it is true enter in bracket.
  - d. print(i) value on terminal
  - e.  $no = no / i$  else i++ then loop will iteration again
- ⑤ Stop

Flowchart :



19]

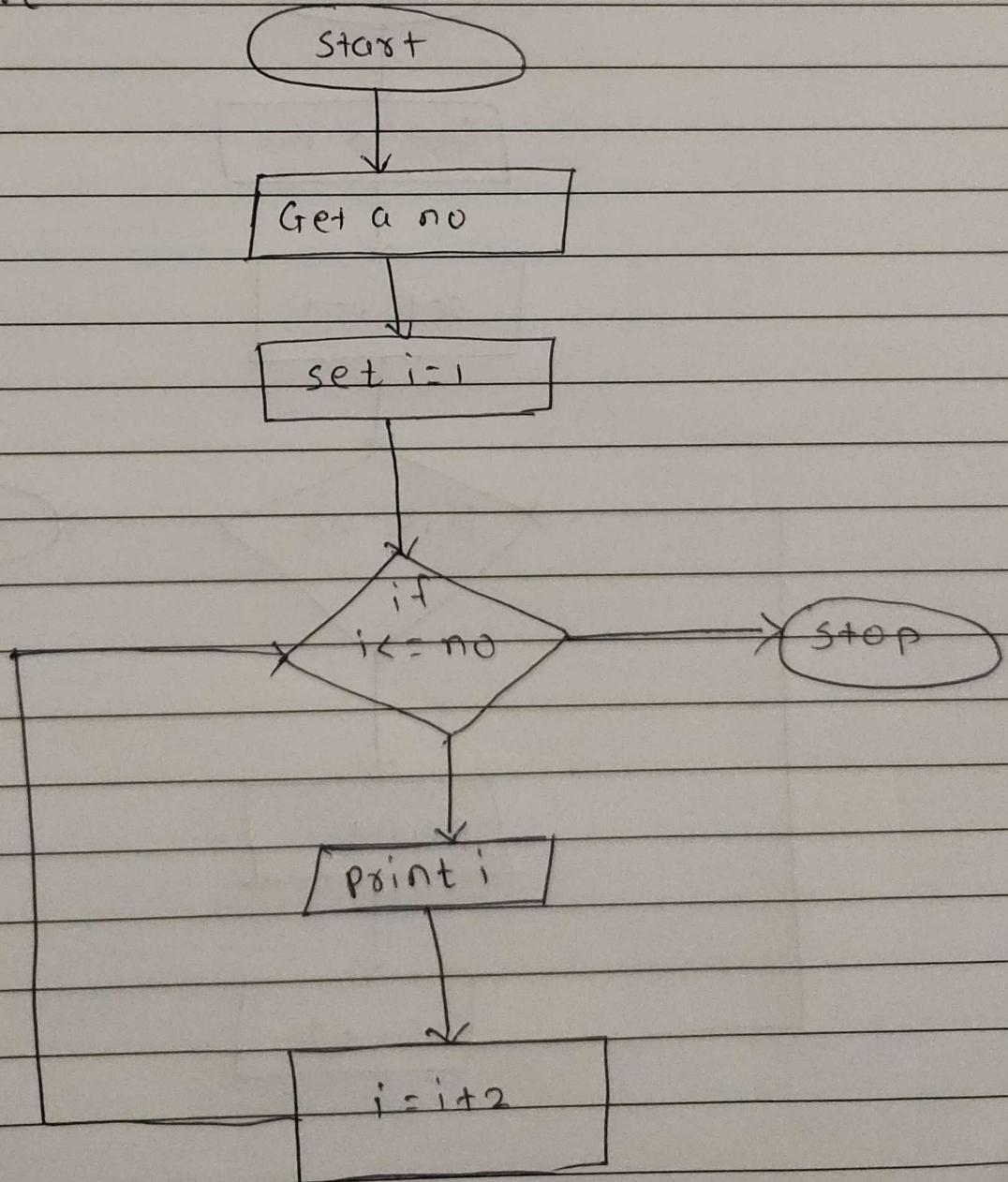
To print the following series Even no. series

2 4 6 8 10 12 14 16

Algorithm

- ① Start
- ② get a no. from user upto while they want to print even no.
- ③ set i=2
- ④ if  $i < \text{no}$ , print i &  $i = i + 2$ , else go to step 6
- ⑤ Repeat step 4 until  $i = \text{no}$
- ⑥ Stop

Flow chart:



20] odd series 1 3 5 7 9 11

Algorithm

- ① start
- ② get a no. from user upto which they want to print even no.
- ③ set  $i = 1$
- ④ if  $i \leq \text{no}$ , print  $i$  &  $i = i + 2$ , else go to step 6
- ⑤ Repeat step 4 until  $i \leq \text{no}$ .
- ⑥ stop

Flow chart:

