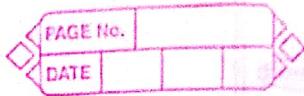


9/9/2022

Assignment NO.2.



Q.1. Check if given no is Even or ODD.

Algorithm -

Step 1 : Read the given 'no'.

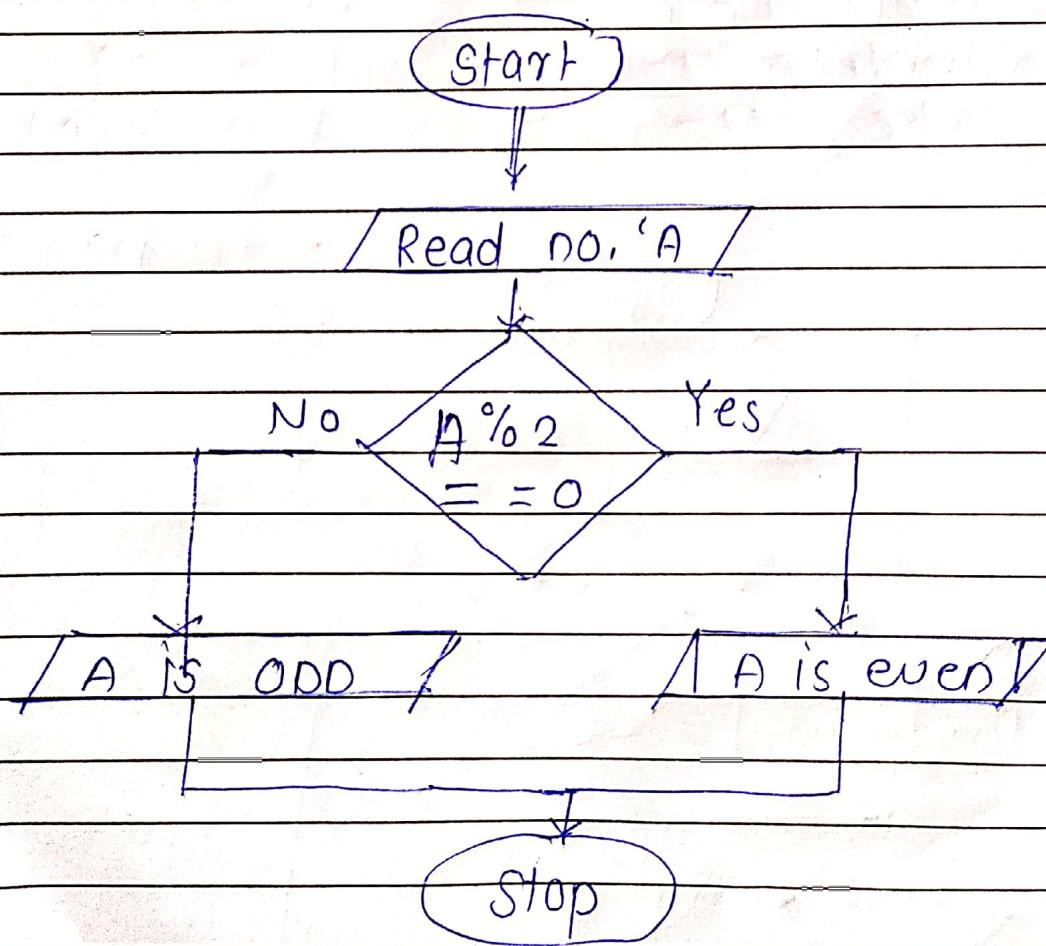
Step 2 : $(\text{no} \% 2 == 0)$

Step 3 : If it is '0' then print even no.

Step 4 : If it is not '0' then it is odd no.

Step 5 : Stop.

Flowchart -



Q.2 Write program to find factorial of a given no.

Algorithm -

Step 1 : Start

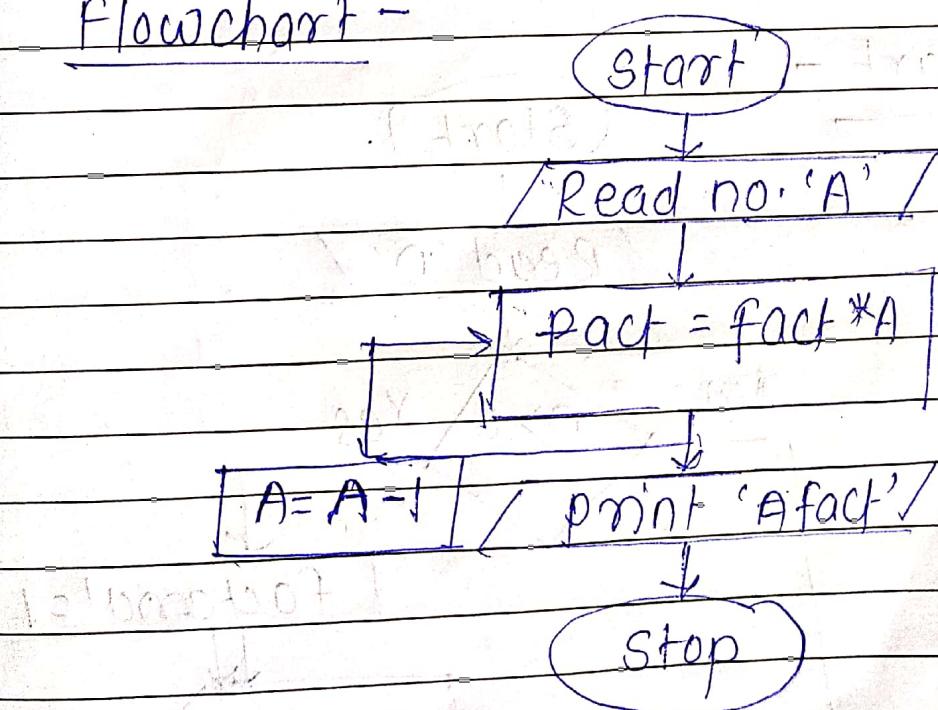
Step 2 : Read the given no and assign it to variable 'A'.

Step 3 : Take another variable fact and multiple fact with number less than 'A' till 01.

Step 4 : print fact.

Step 5 : Stop

Flowchart -



Q.3 Factorial number using Recursion

Algorithm -

Step 1 : Start

Step 2 : Read number 'n'

Step 3 : calculate factorial (n)

Step 4 : print factorial 'F'

Step 5 : Stop

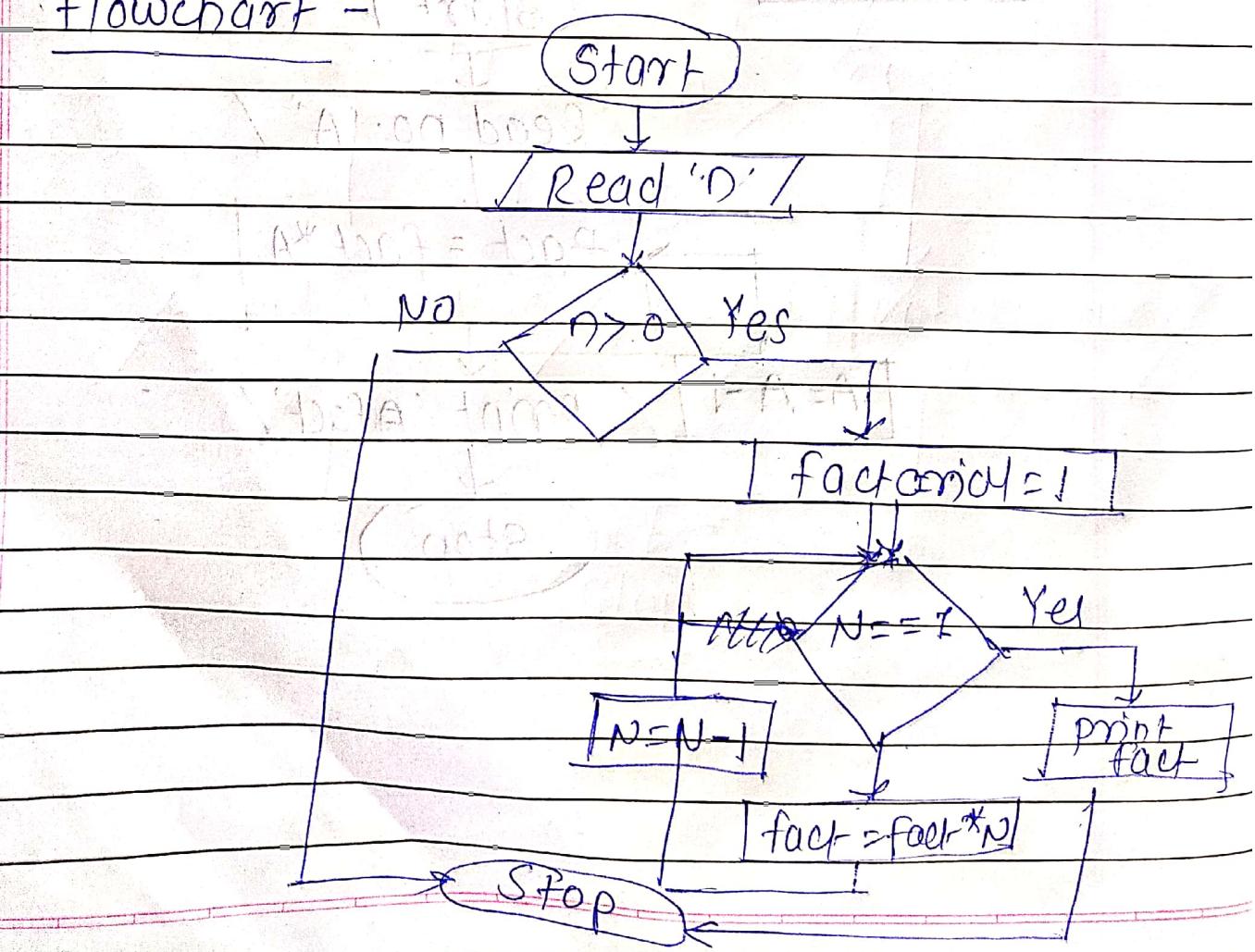
factorial (n)

Step 1 : If $n=1$ then return 1

Step 2 : else $f = n * \text{factorial}(n-1)$

Step 3 : return f

flowchart -



Q.4 Swap two numbers without using the third variable.

Algorithm -

Step 1 : Start

Step 2 : Read numbers 'a' and 'b'

Step 3 : $a \leftarrow a+b$

$b \leftarrow a-b$

$a \leftarrow a-b$

Step 4 : print numbers 'a' and 'b'

Step 5 : Stop

flowchart

start

Read 'a' and 'b'

$a = a+b$

$b = a-b$

$a = a-b$

print 'a' and 'b'

stop

Q.5 Check no. is positive or negative

Algorithm -

Step 1 : Start

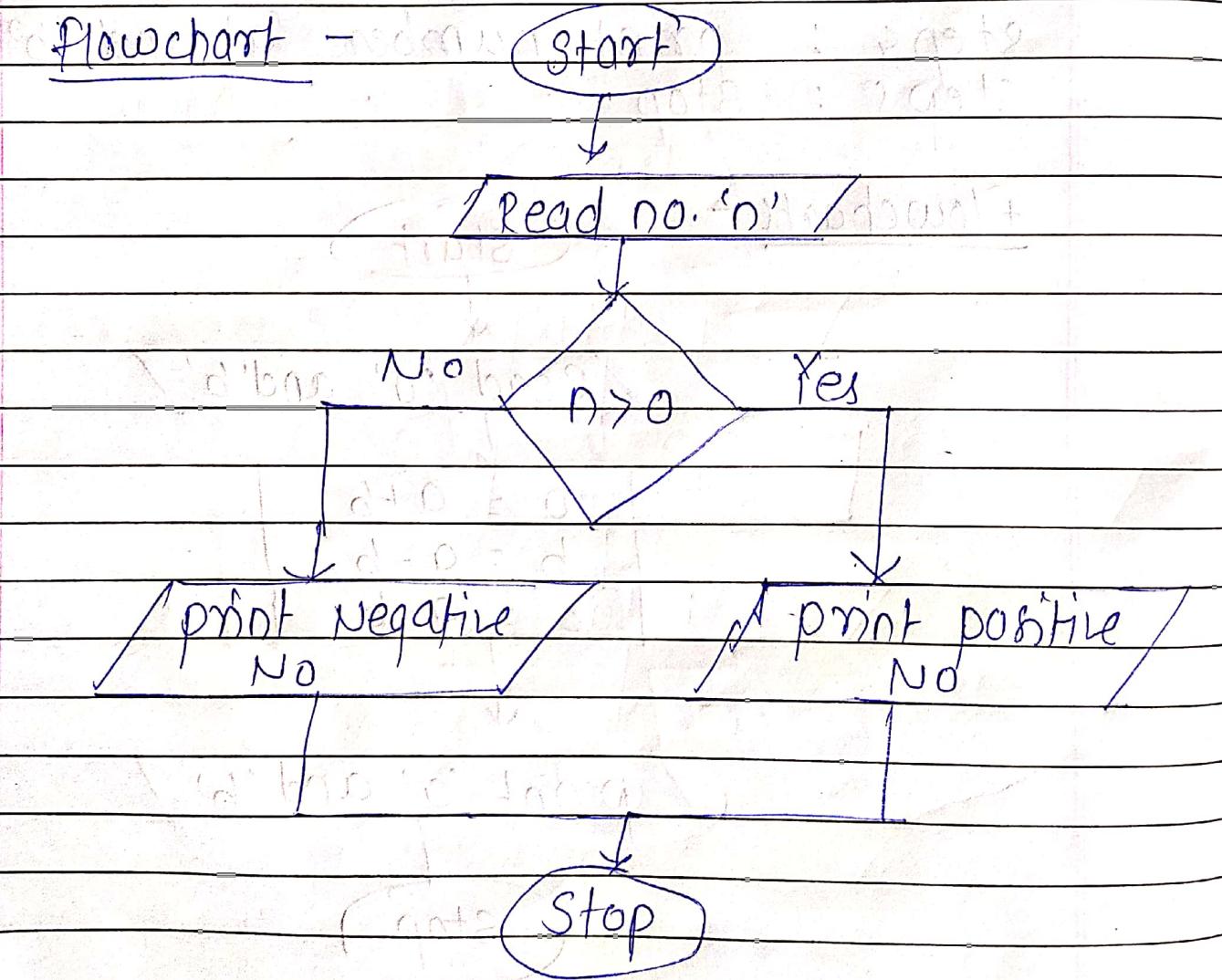
Step 2 : Read number 'n'.

Step 3 : IF $n > 0$, print positive no.

Step 4 : IF $n < 0$, print negative no.

Step 5 : Stop.

Flowchart -



Q.6

Write a java program to print given year is Leap Year or not.

Algorithm -

Step 1 : Start

Step 2 : Read the year 'n'.

Step 3 : calculate $(n \% 4 == 0)$ or $(n \% 100 == 0)$ and $(n \% 400 == 0)$

Step 4 : ~~check~~ print if it is leap year

Step 5 : Stop

flowchart -

start

Read year 'n'

check $(n \% 4 == 0)$ or
 $(n \% 100 == 0)$

$(n \% 400 == 0)$ and

$(n \% 400 == 0)$

print year is leap
year

Stop

Q.7 print number from 1 to 10

Algorithm -

Step 1 : Start

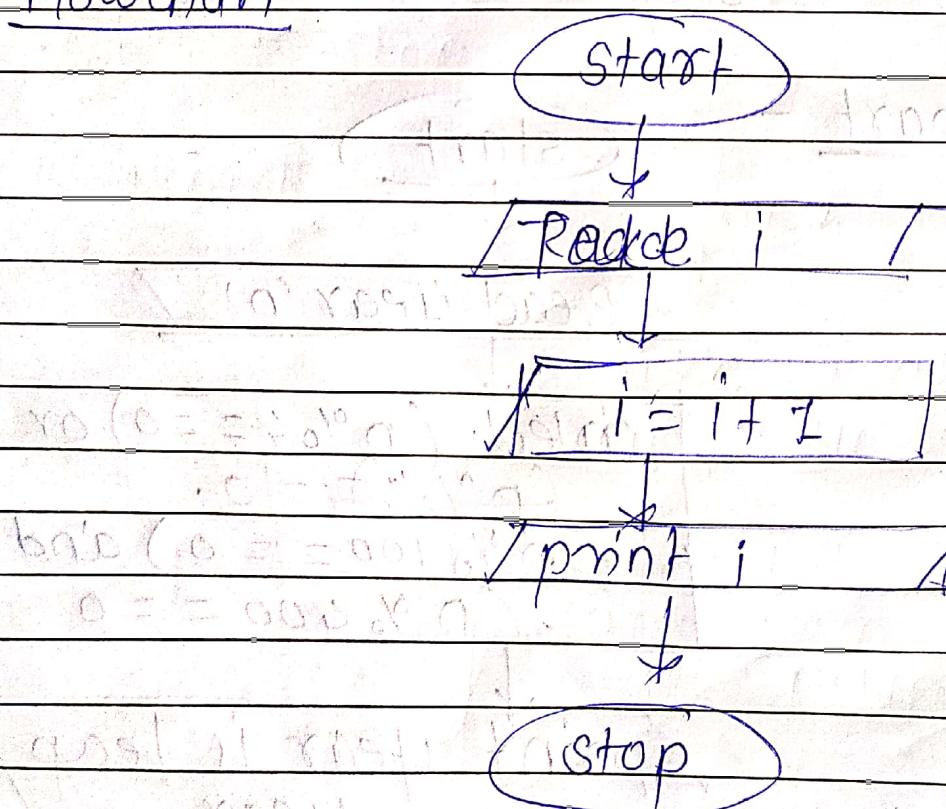
Step 2 : Take variable $i = 1$

Step 3 : add 1 to i 10 times and print the number.

Step 4 : print

Step 5 : Stop

Flowchart -



Q. 8. Write an algorithm to print digits of given number.

Algorithm -

Step 1 : Start

Step 2 : Read given number 'num'.

Step 3 : Take Variables 'rem', 'dig'.

Step 4 : $num \% 10 = rem$

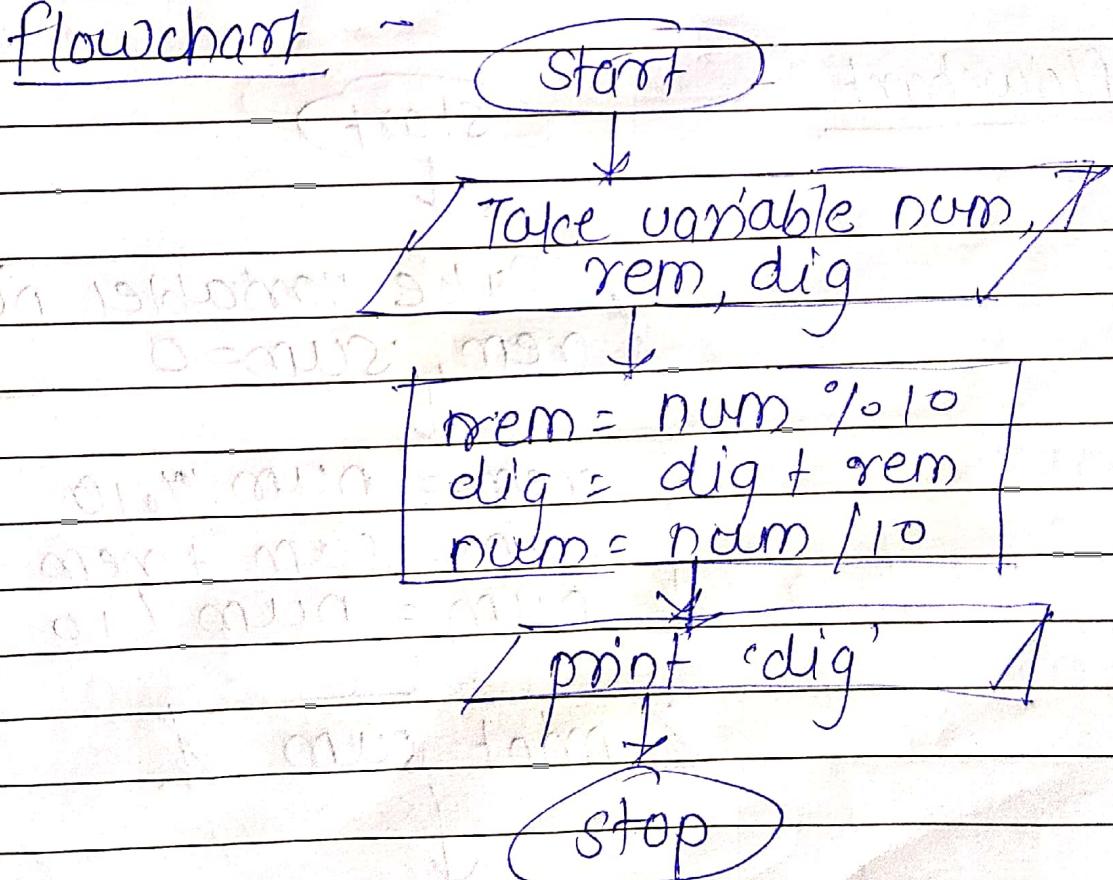
$dig = dig + rem$

$num = num / 10$

Step 5 : print 'dig' every time

Step 6 : Stop

flowchart -



Q. 9. programs to print all factors of given number.

Algorithm -

Step 1 : Start

Step 2 : Read the number 'num'

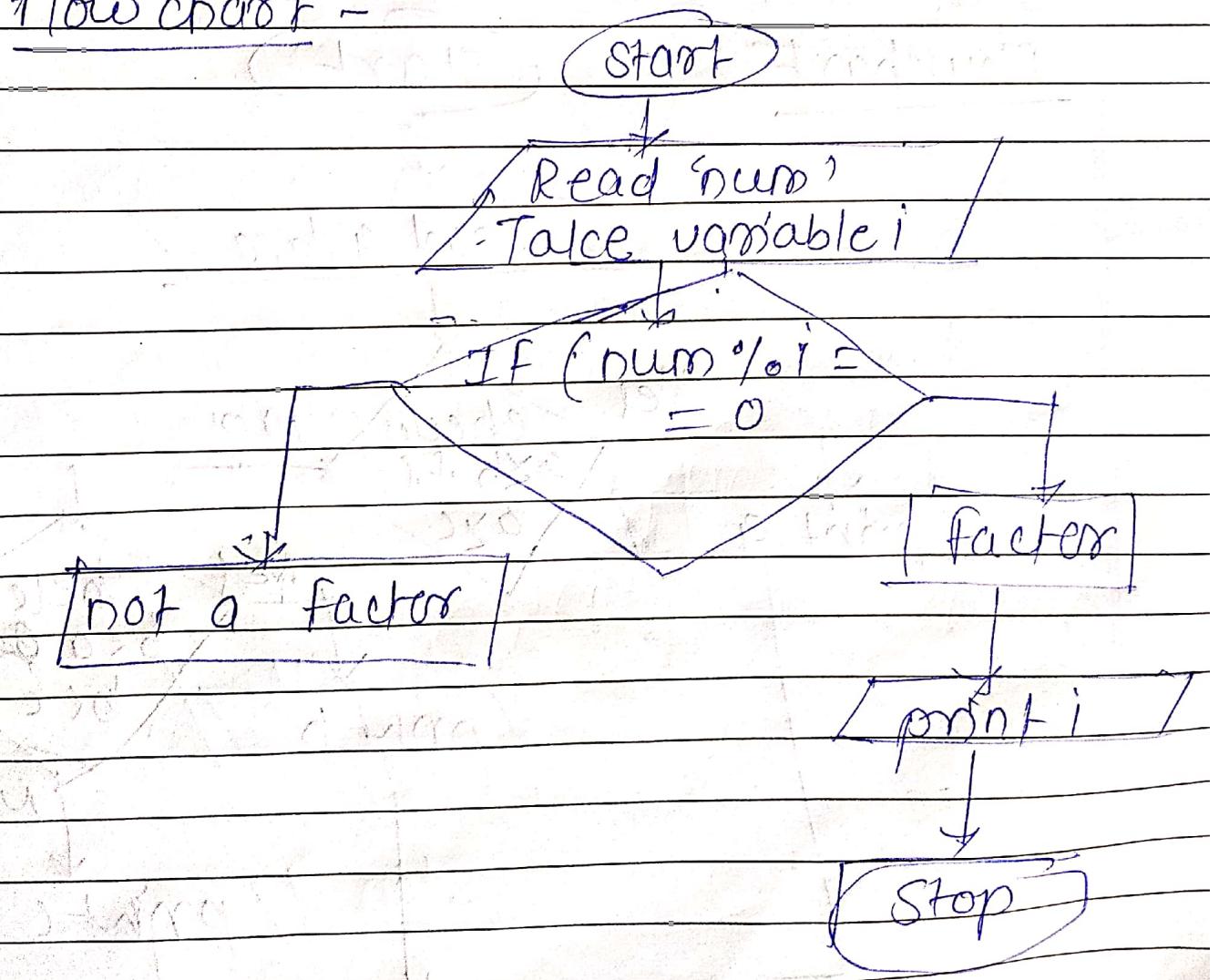
Step 3 : If divide the num starting from 2 to num.

Step 4 : If ($num \% i == 0$)

Step 5 : print i

Step 6 : Stop

flowchart -



Q10 program to find sum of the digits of given number.

Algorithm -

Step 1 : Start

Step 2 : Read the number 'num'

Step 3 : Take variables 'rem', 'sum=0'

Step 4 : $rem = num \% 10$

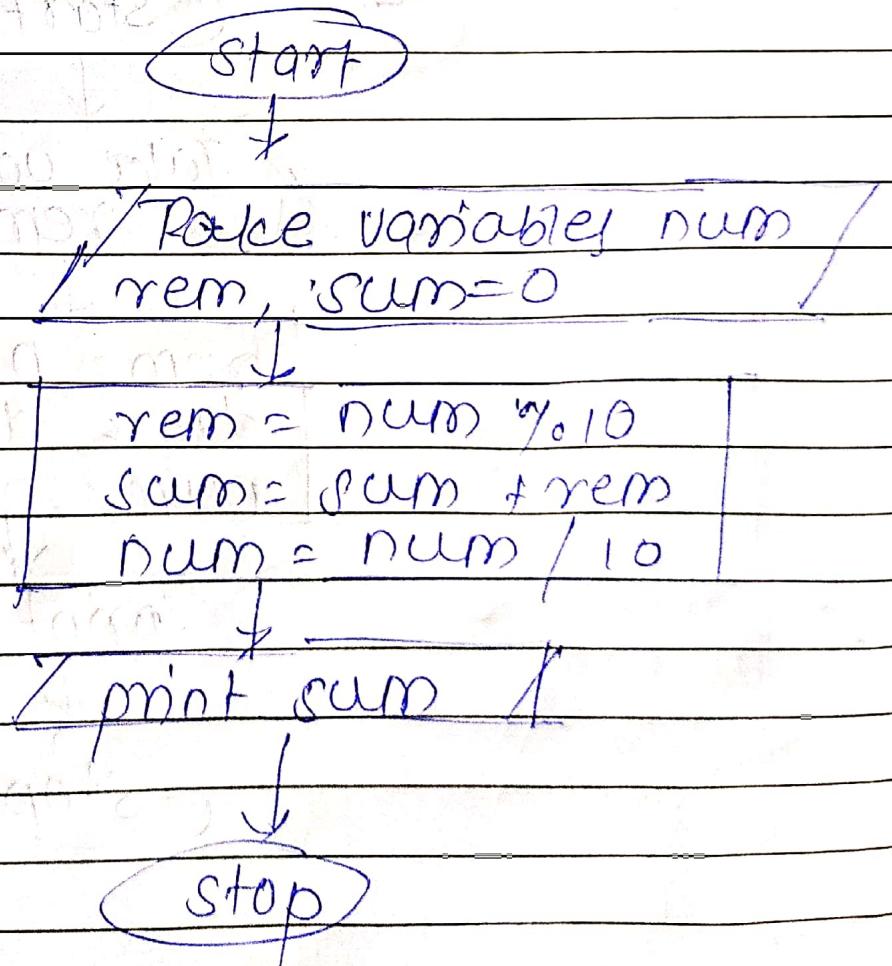
$sum = sum + rem$

$num = num / 10$

Step 5 : print sum at end.

Step 6 : Stop

flowchart



Q. 11. program to find smallest of 3 numbers.

Algorithm -

Step 1 : Start

Step 2 : Read all 3 numbers 'a', 'b', 'c'

Step 3 : check ($a \times b$) and ($a \times c$)

print 'a' is greater/smaller

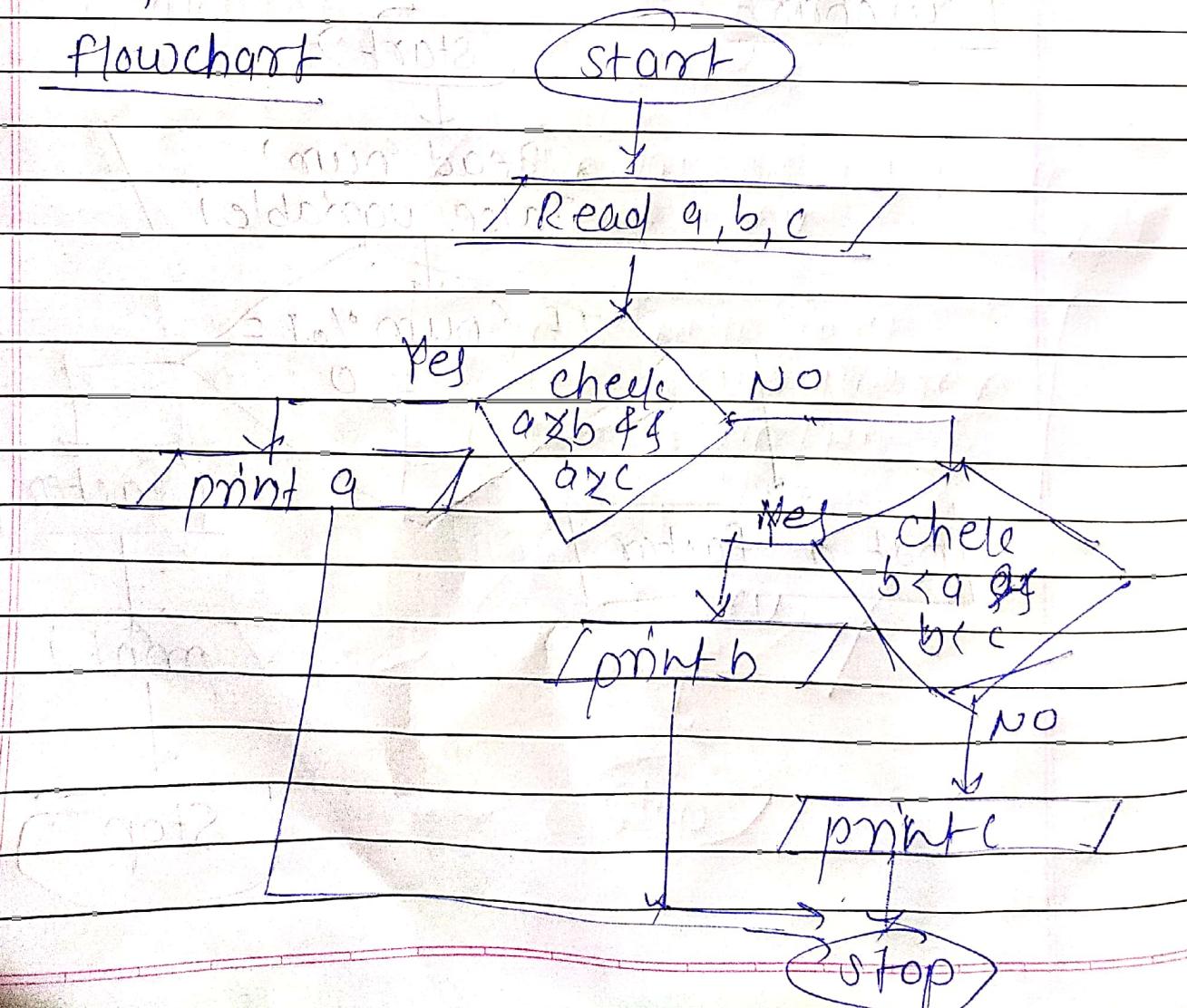
Step 4 : check ($b \times a$) and ($b \times c$)

print 'b' is greater/smaller

Step 5 : if else print 'c' is greater/smaller

Step 6 : Stop

flowchart



Q12. Add two numbers

Algorithm -

Step 1 : Start

Step 2 : Read a and b

Step 3 : Take variable i

Step 4 : Start for loop from a and
increment a till b

Step 5 : print a

Step 6 : Stop

Flowchart -

Start

Read, a and b

for $i=1, i \leq b; i++$
 $a=a+i$

print a

Stop

Q.13 Reverse a given number.

Algorithm -

Step 1: Start

Step 2: Read num

Step 3: Take variable rem, rev.

Step 4: rem = num % 10

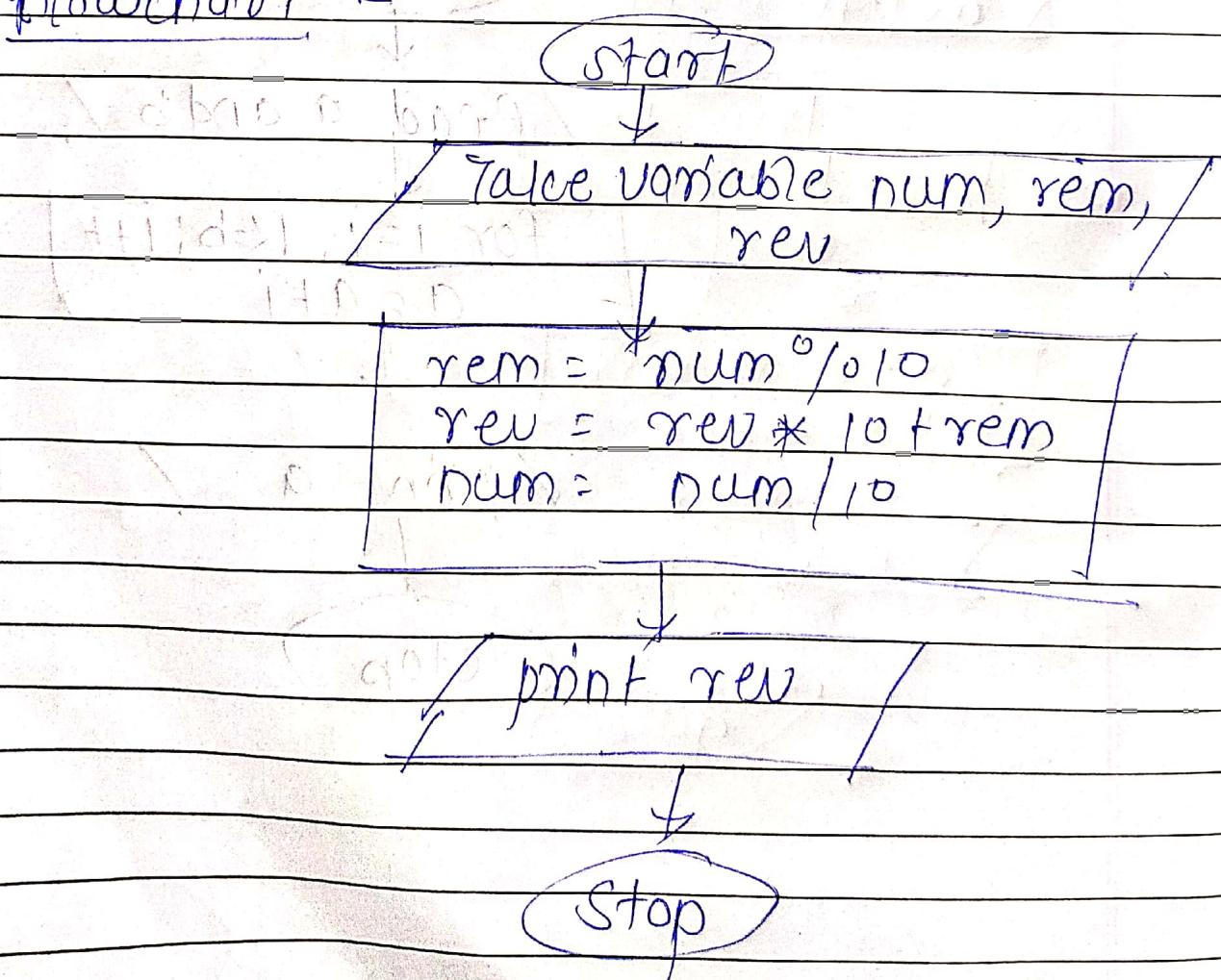
rev = rev + rem * 10 + rem

num = num / 10

Step 5: Print rev every time.

Step 6: Stop

Flowchart -



Q.14. GCD of given numbers

Algorithm -

Step 1 : Start

Step 2 : Read numbers a and b

Step 3 : Run for loop till greater smaller number

Step 4 : check which number is dividing a and b completely

Step 5 : print that number.

Step 6 : Stop

Flowchart -

start

Read a, b

for (i = 1; (i <= a) & (i < b); i++)
 if (a % i == 0) &&
 (b % i == 0) -

print i

Stop

Q.15. LCM of two numbers.

Algorithm -

Step 1 : Start

Step 2 : Read numbers a and b

Step 3 : cal gcd of a and b

Step 4 : $lcm = (a * b) / gcd$

Step 5 : Stop

Flowchart -

Start

Read a and b

cal gcd of
a and b
$$lcm = \frac{(a * b)}{gcd}$$

print lcm

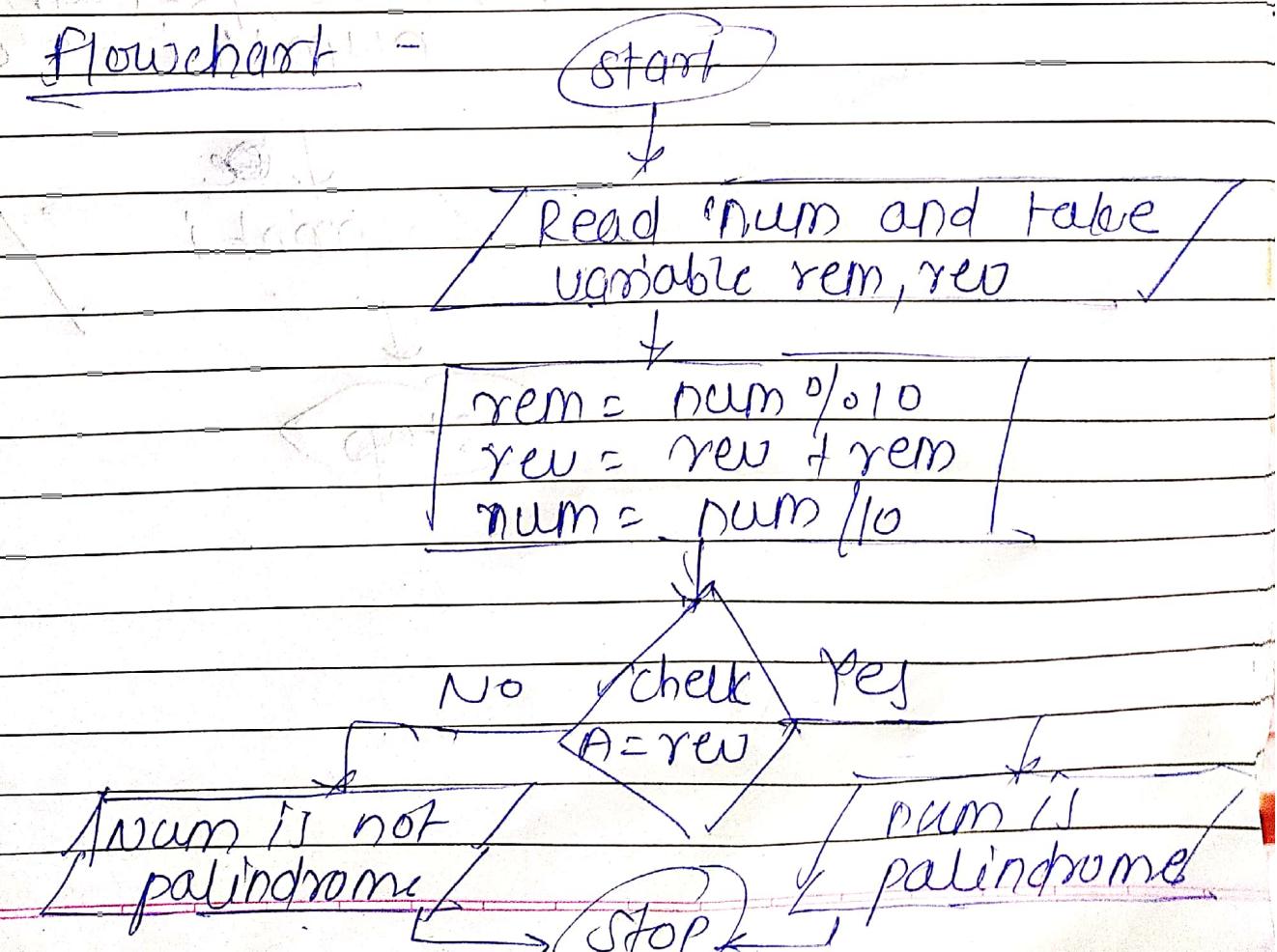
Stop

Q. 107 check number is palindrome or not.

Algorithm -

- Step 1 : Start
- Step 2 : Read num 'a'
- Step 3 : Take variable rem, rev=0
- Step 4 : rem = num % 10
rev = rev + rem
num = num / 10
- Step 5 : print rev every time
- Step 6 : check num == a == rev
- Step 7 : print number is palindrome
- Step 8 : Stop

Flowchart -



Q.18 prime factors of a number

Algorithm -

Step 1 : start

Step 2 : Read number enum'

Step 3 : If (num % i == 0)

print i

Step 4 : stop

flowchart -

(Start)

Read num

for (i=0; i<=num; i++)
 if (num % i == 0)

print i

(Stop)

Q.19 Even series

Algorithm -

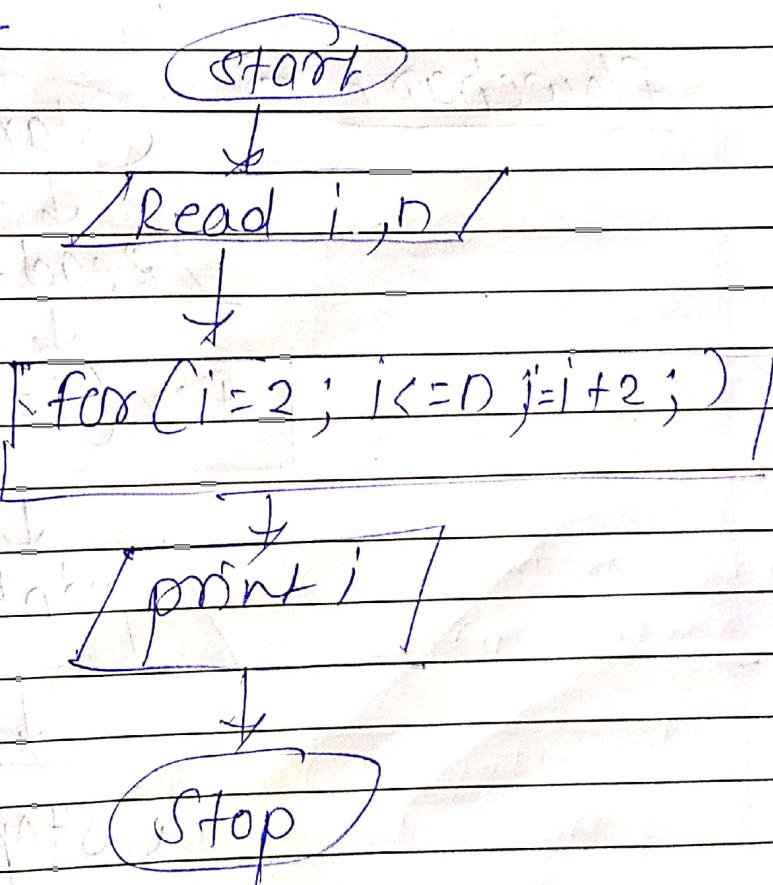
Step 1 : Start

Step 2 : Read for loop from (2i to num) increment by 2

Step 3 : print i

Step : Stop

Flowchart -



Q. 20 Odd series:

Algorithm -

Step 1 :- Start

Step 2: for loop starting from 1 and increment by 2

Step 3 : print i

Step 4 : Stop

flowchart -

start

Read a, m, n

for ($i=1$; $i \leq n$; $i = i+2$)

print i

stop