

Assignment 1

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

Algo :- 1 ÷ start

2 ÷ Enter a No. 'N'

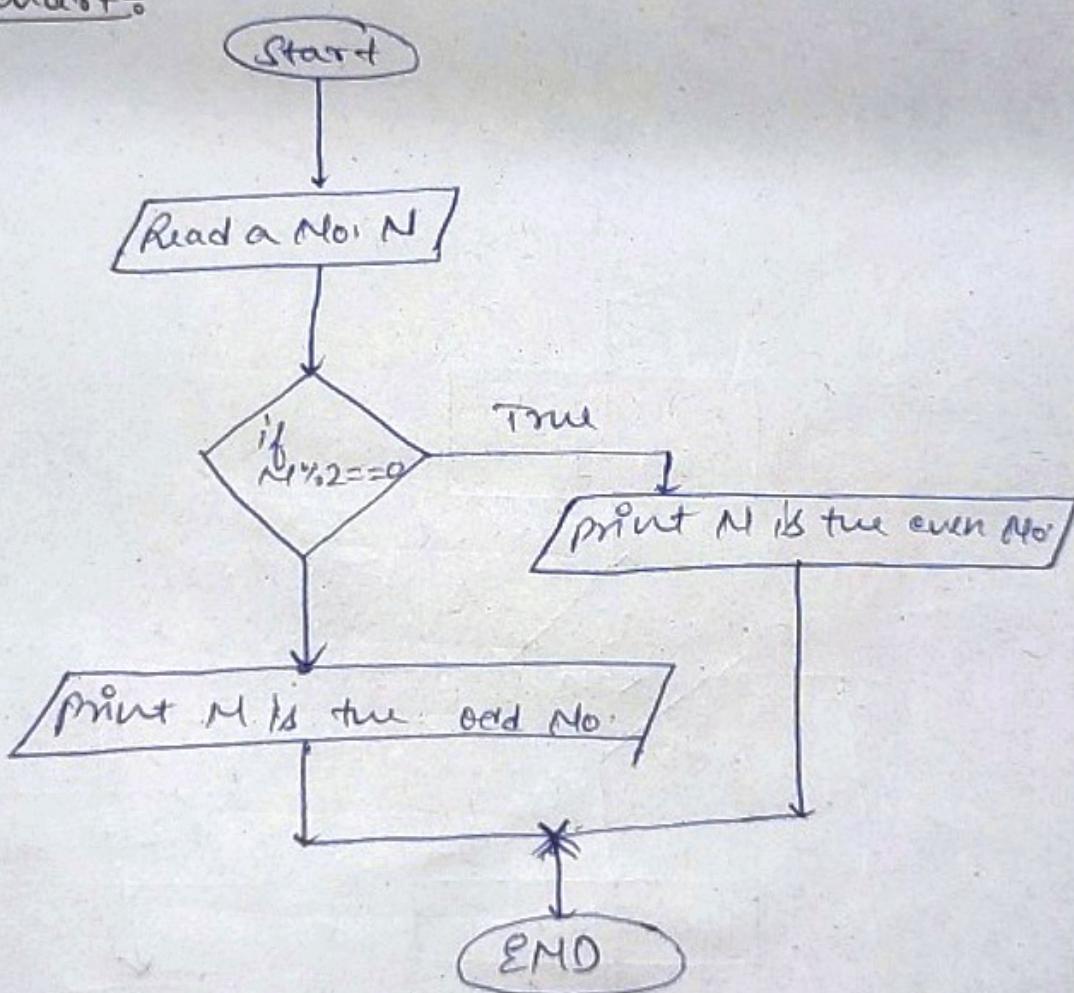
3 ÷ if ($N \% 2 == 0$)

 print ('N is the even no.)

else

 print ('N is the odd No.)

Flowchart :-



2: Algorithm to find the factorial of a no. without recursion.

Algorithm

1: Start

2: Read a no. 'n'

3: Initialize a factorial variable to 1 & $i=1$

4: If $i \leq n$ go to step 5 otherwise go to step 8

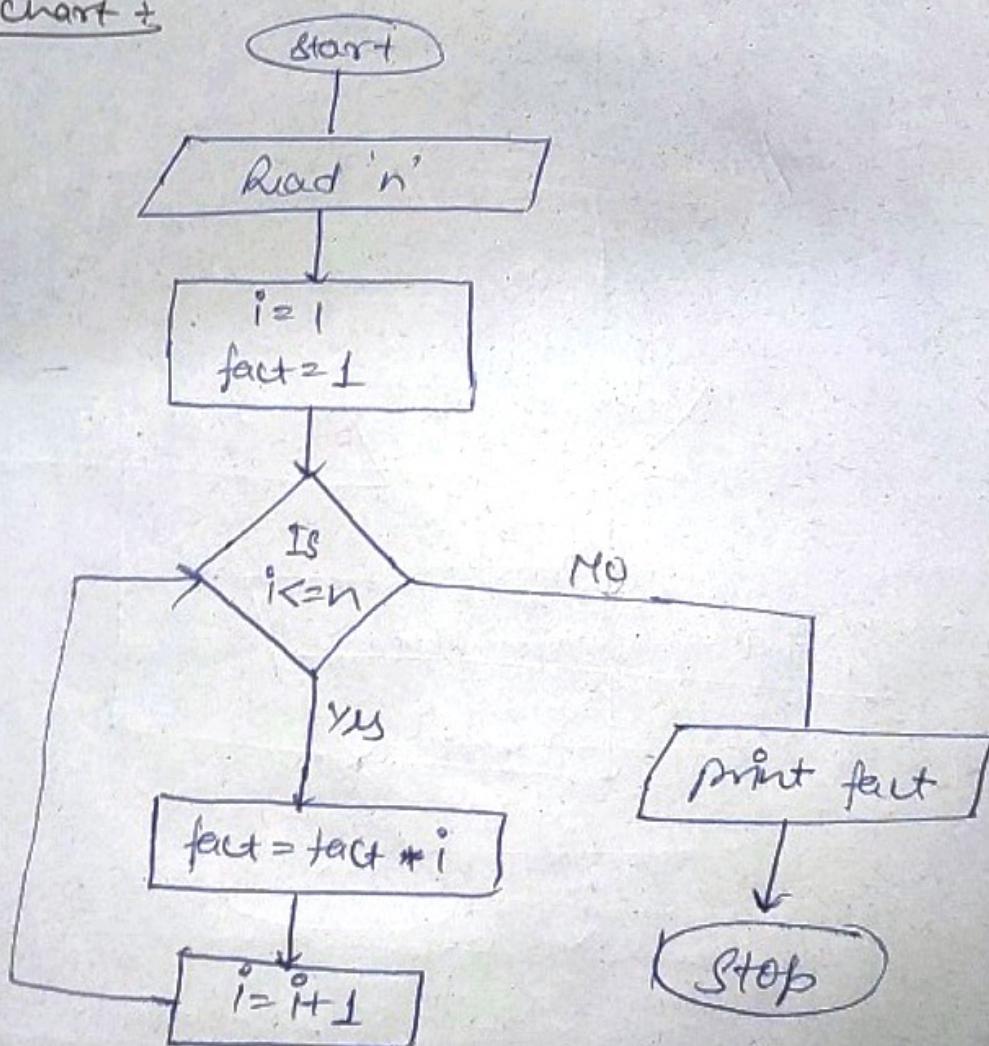
5: calculate $\text{fact} = \text{fact} * i$

6: $i++$ & go to step 4

7: print fact

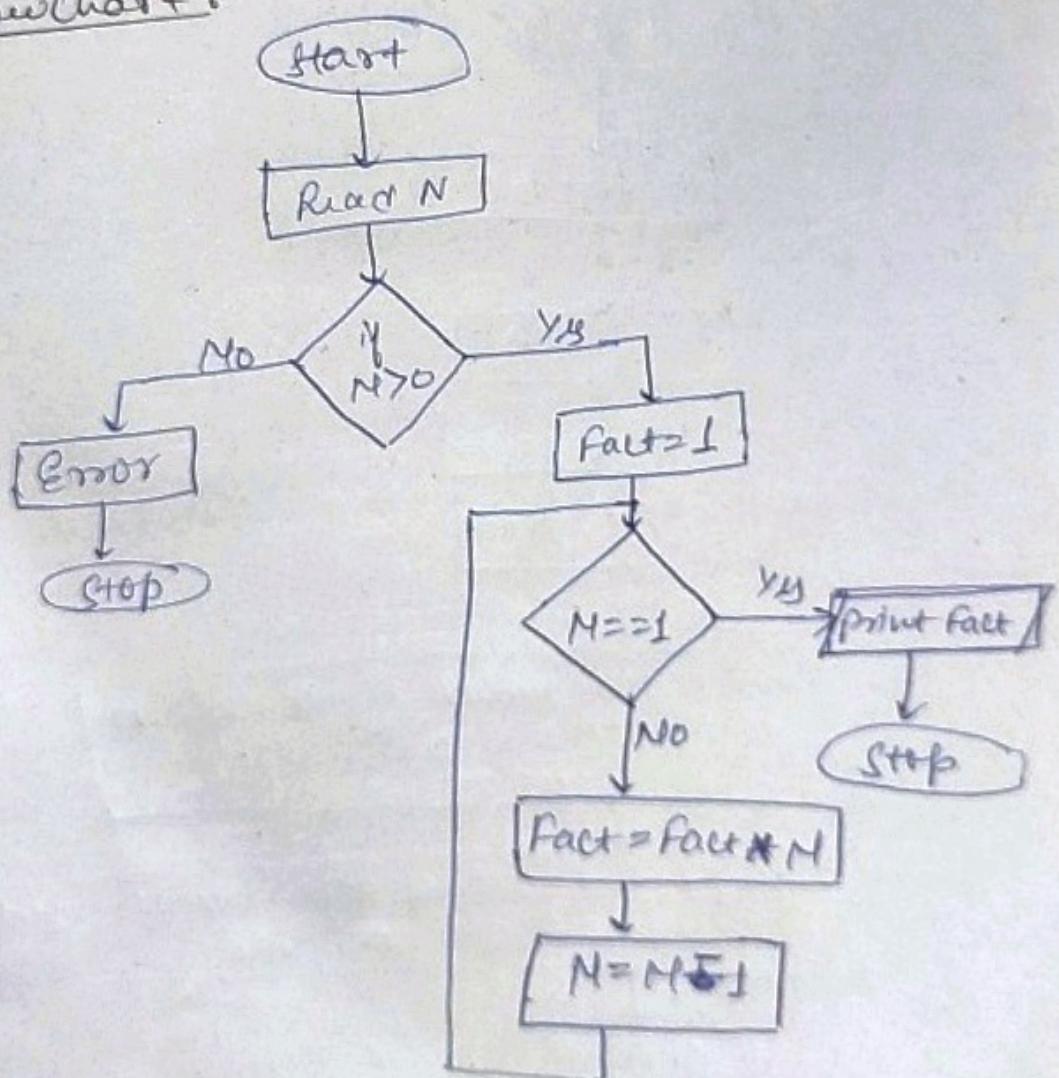
8: stop

Flow chart :-



- \therefore Find the factorial of a no. using Recursion.
- Algo:
- 1: Start
 - 2: Read N
 - 3: If ($N > 0$)
 - fact = 1, then go to step 4, otherwise
 - 4: If ($N = 1$) ~~go to~~ print fact and go to 7.
 - 5: Print fact, & go to step 7, otherwise go to step 5.
 - 6: $N = N - 1$ and go to step 4.
 - 7: Stop

Flowchart:



4: Swap two nos without using the third variable approach.

Algo: 1: Start

2: Read $a = 25$ & $b = 20$

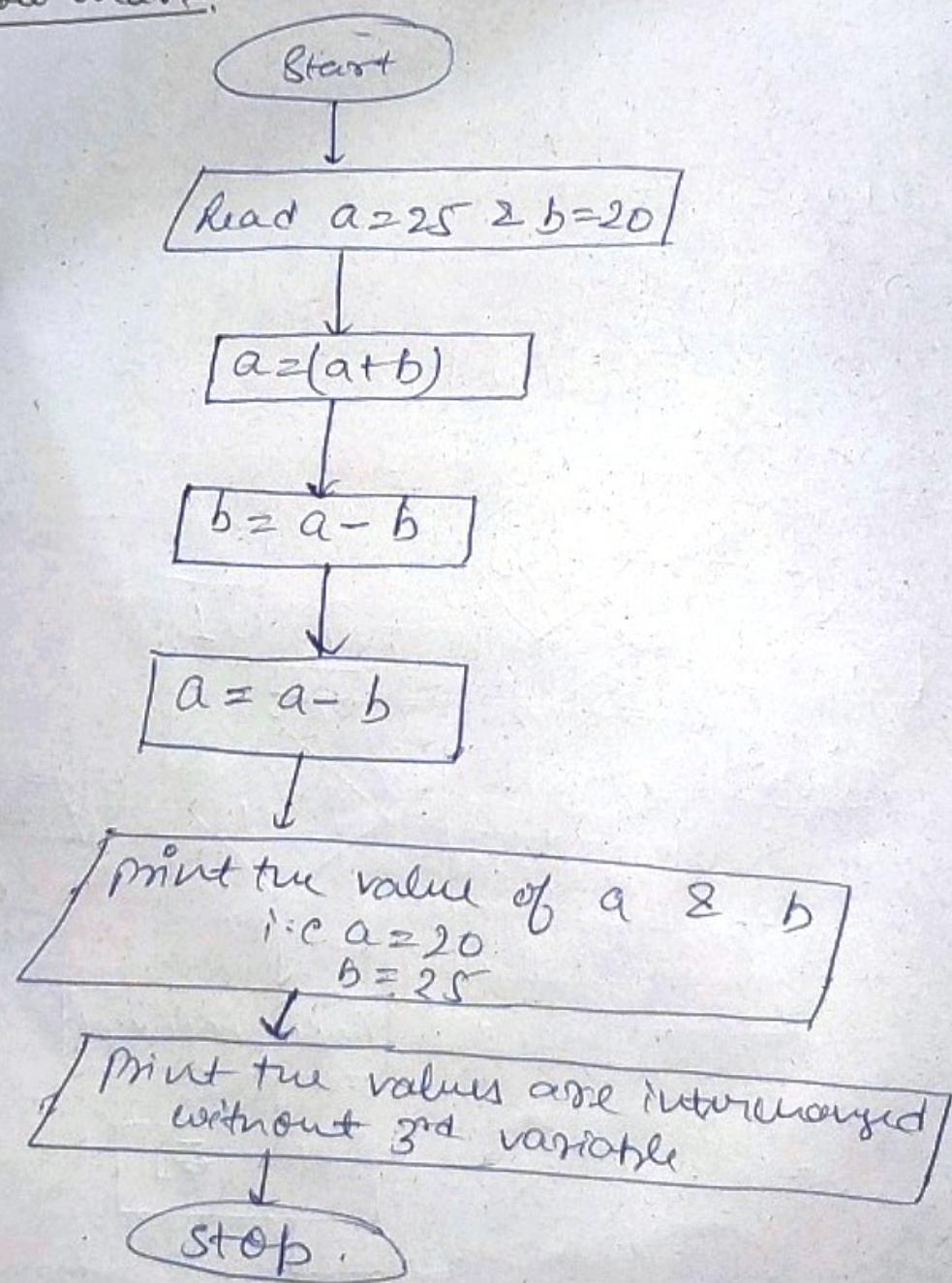
3: $a = a + b = 45$

4: $b = a - b$

5: $a = a - b$

6: ~~too~~ print the value of variable a &
i.e $a = 20$ & $b = 25$

Flow chart:

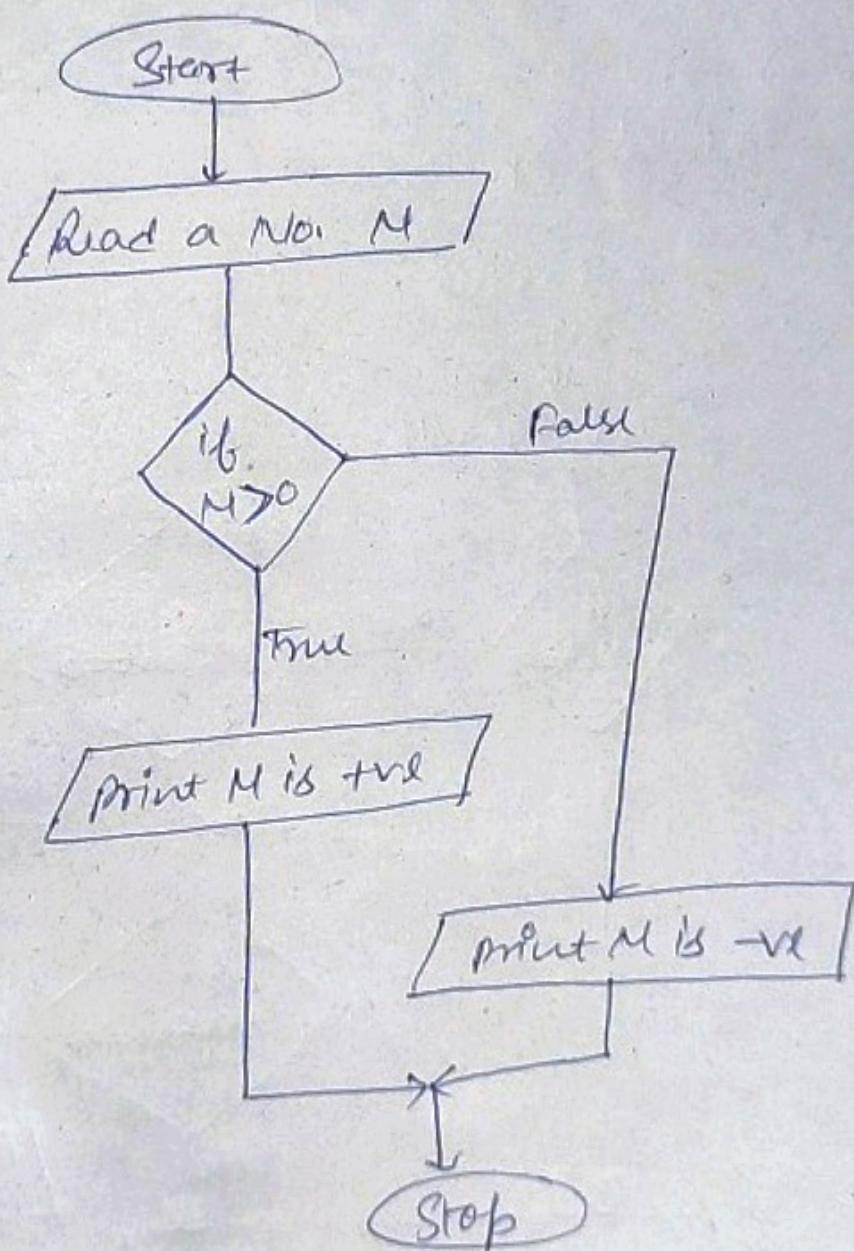


~~Ques~~ Check whether the no. is positive or negative.

Algo

- 1: Start
- 2: Read a No. N
- 3: If ($N > 0$)
 print N is +ve
else
 print N is -ve

Flowchart



6: Algorithm & Flowchart to check whether a given year is leap year or not.

Algo:

1) Start

2) Read a year 'N'

3) If ($N \% 4 == 0$),

then go to step 4 otherwise go to 7

4) If ($N \% 100 == 0$)

then go to step 5 otherwise go to 6

5) If ($N \% 400 == 0$)

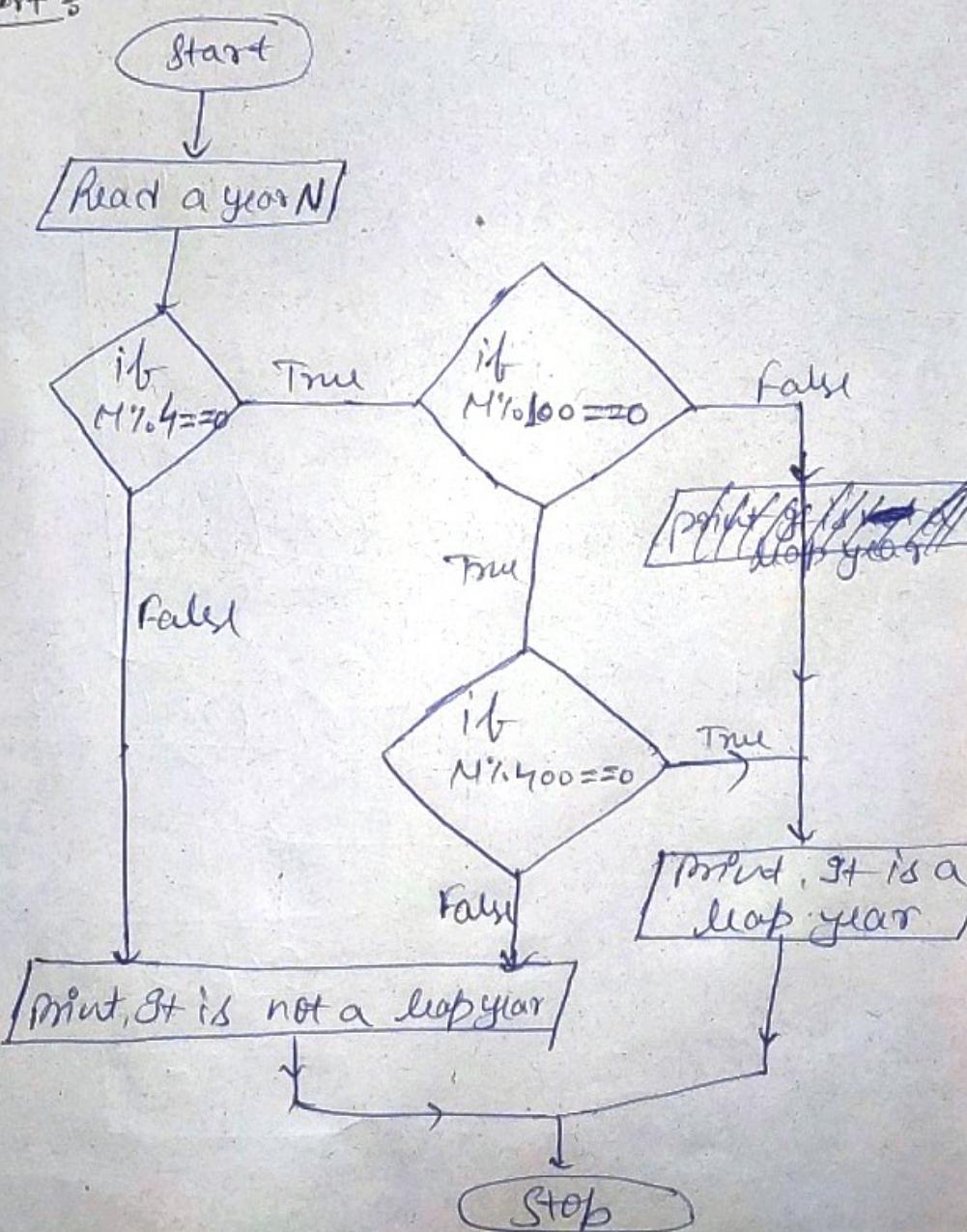
then go to step 6 otherwise go to 7

6) Print It is a leap year & go to 8

7) Print It is not a leap year & go to 8

8) Stop.

Flowchart:



write a algorithm & flowchart to print 1 to 10 without using loop.

algo: 1: start

2: initial n ~~is~~ ~~&~~ n=10

3: print n ~~is~~ & n--

4: print n & n--

5: print n & n--

6: print n & n--

7: print n & n--

8: print n & n--

9: print n & n--

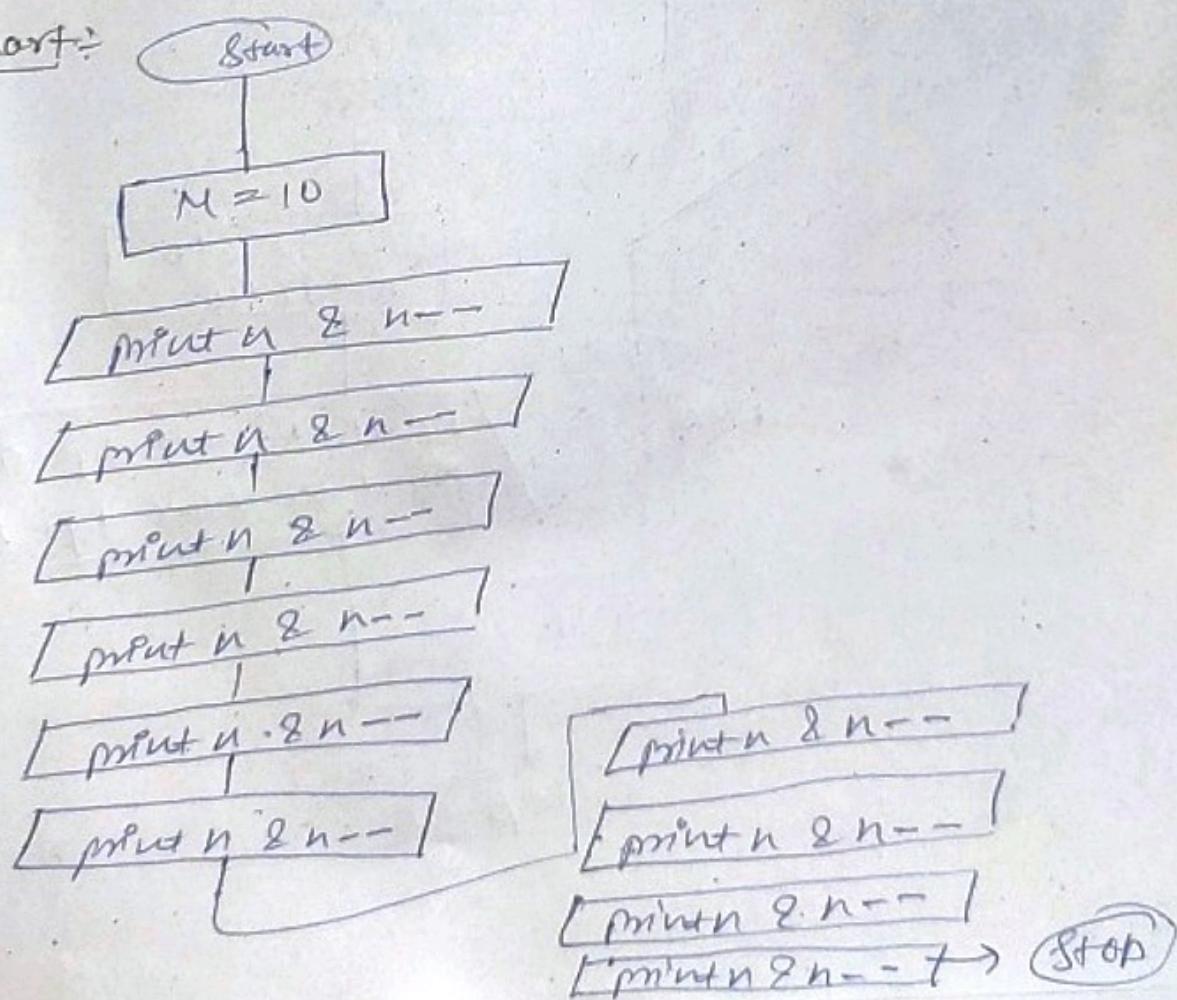
10: print n & n--

11: print n & n--

12: print n & n--

13: stop

flow chart:



Q: Write a algorithm & draw a flowchart to print the digits of a given no.

Algo:-

1: Start

2: Read a No. i.e 92

3: if No. is between 10 to 99

$$\text{then } a = 92 \% 10$$

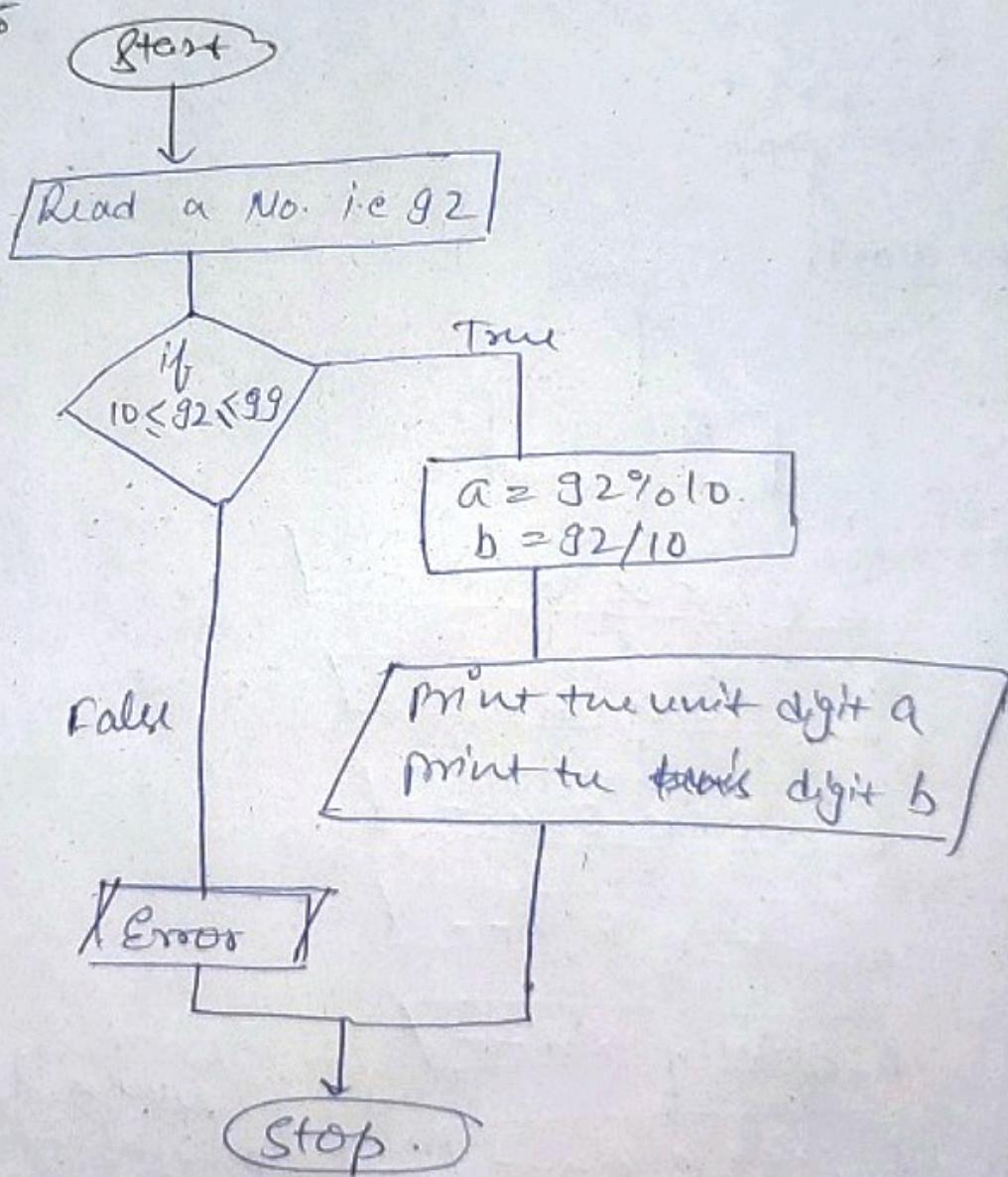
$$b = 92 / 10$$

4: print the unit digit no. i.e $a = 2$ go to 6

5: print the tens digit no. i.e $b = 9$ go to 6

6: Stop.

Flowchart:-

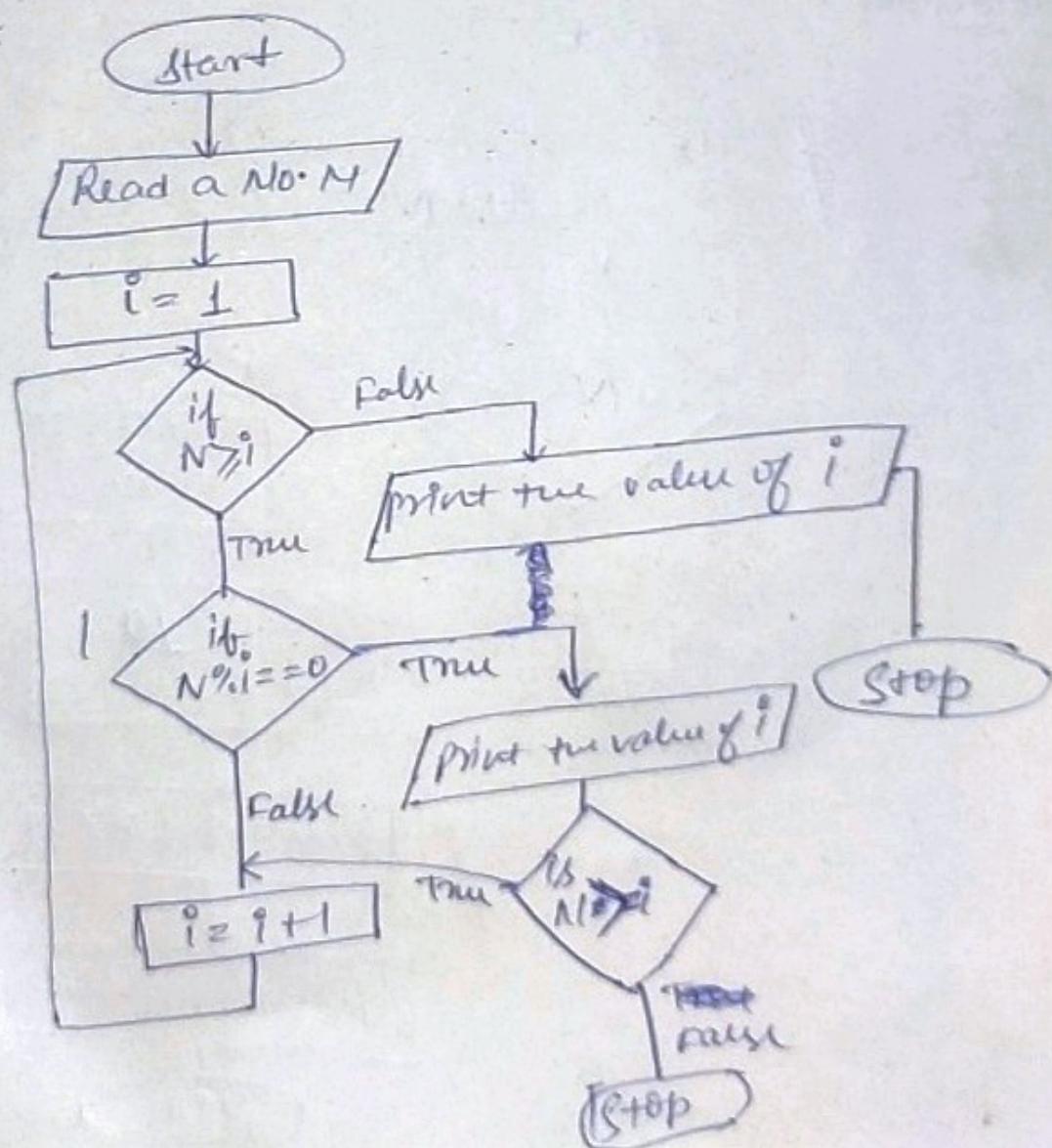


Program to find print all the factors of given no.

Algo:

- 1: Start
- 2: Read a No. N
- 3: Initialise i = 1
- 4: If ($N \geq i$)
then go to step 5, otherwise go to step 7
- 5: If ($N \% i == 0$)
then go to step 6, otherwise go to next step
- 6: $i = i + 1$, then goes to step 4
- 7: print the value of i & go to 9
- 8: If $N > i$
then go to step 6, other will go to 9
- 9: Stop

Flowchart:



10. Write the algorithm & draw the flowchart to find the sum of digits of a given no.

Alg: 1. Start

2. Enter a three digit No. N

3. If $100 \leq N \leq 999$

then go to next step, otherwise move to step 8

4. $a = N/100$

5. $c = N \% 100$,

6. $b = c \% 10$

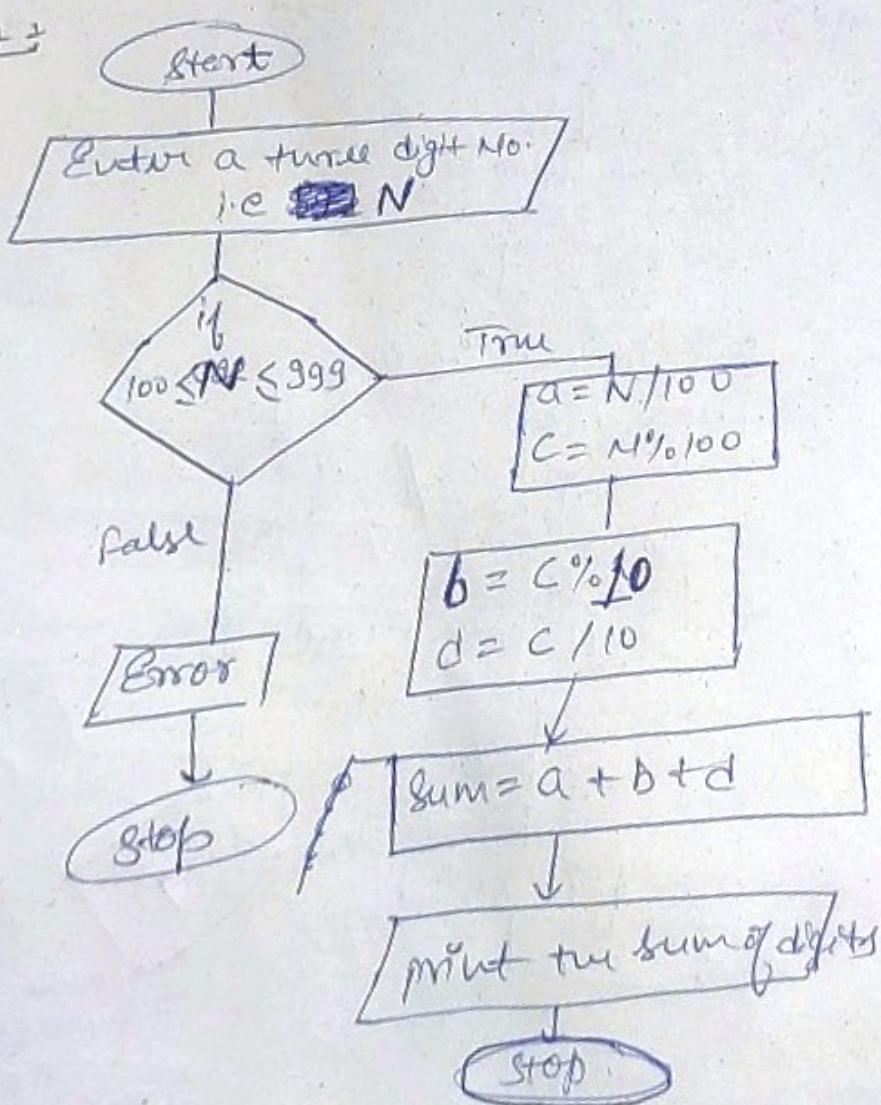
$d = c / 10$

7. \rightarrow sum = $a + b + d$

\rightarrow print the value of sum.

8. Stop

Flowchart:

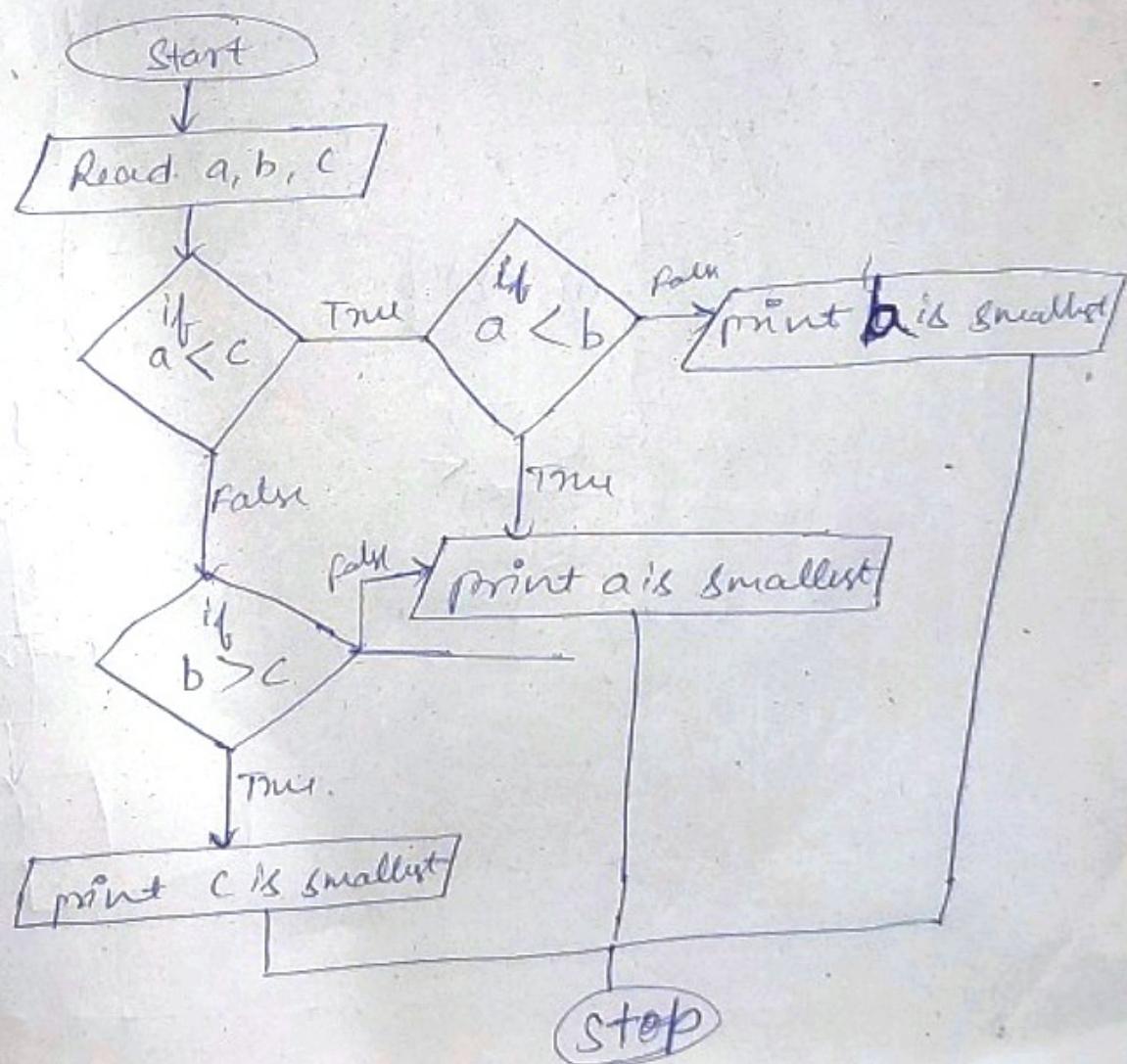


+ Write a algorithm & draw flowchart to find smallest of 3 numbers (a, b, c).

Algo :-

- 1: Start
- 2: Read a, b, c
- 3: if ($a < c$)
 - true, then go to next step, otherwise move to step 5
- 4: if ($a < b$)
 - then, print 'a' is the smallest, otherwise print 'b' is smallest and go to step 6.
- 5: if ($b > c$)
 - then, print 'c' is smallest & go to 6 otherwise print 'a' is smallest & go to 6
- 6: Stop

Flowchart



12 + Write the algorithm for addition of two nos without using arithmetic operations.

Algo :-

1. Start
2. Read a, b

3. $C = \text{add}(a, b)$

4. $\text{int } i = 1$ & controllability of function add
 $\text{add}(n, y)$

5. If ($i \leq y$)

then $n++$

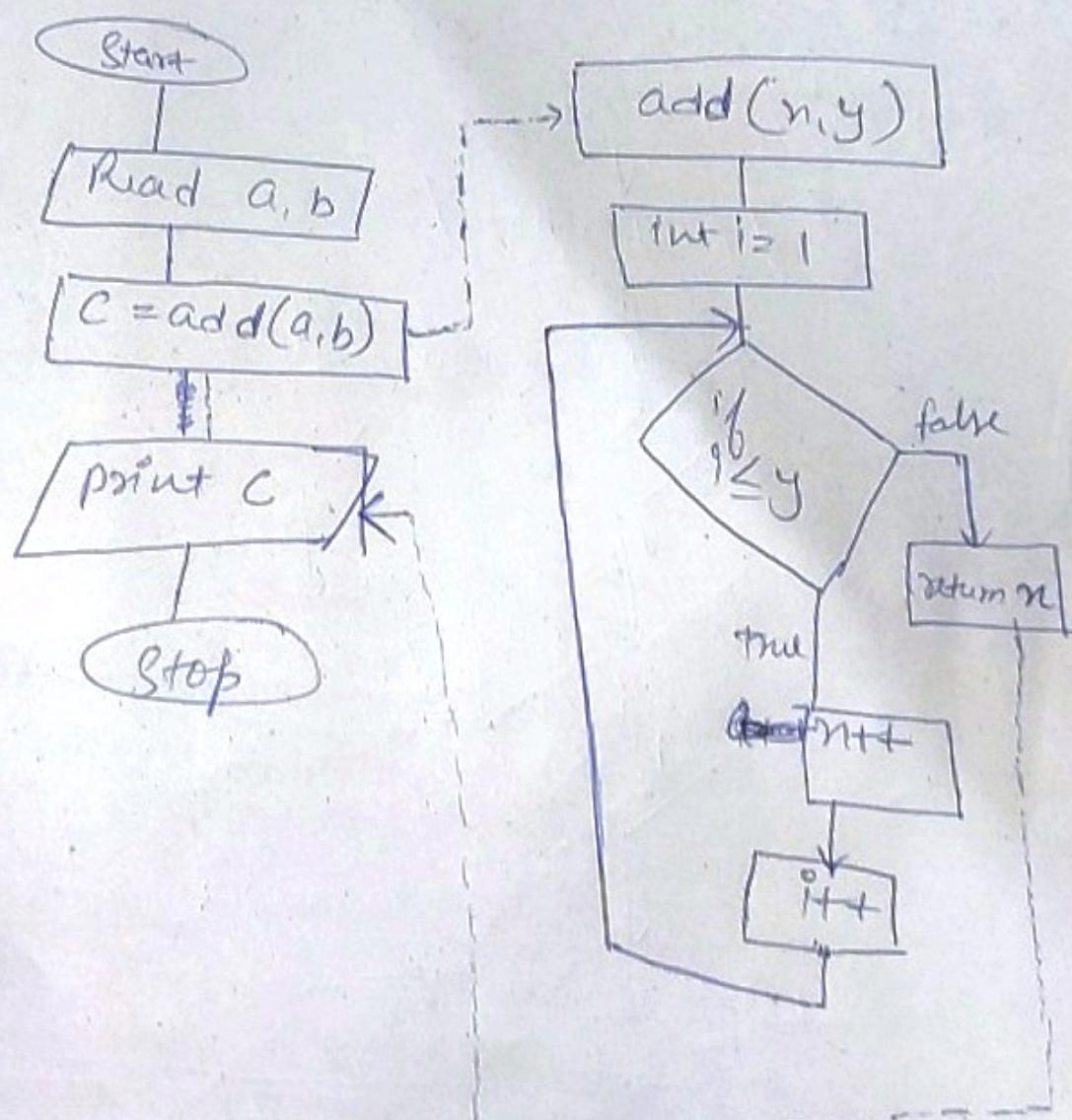
return n.

6. $i++$ then go to next step, otherwise

7. print C

8. Stop

Flowchart :-



13: Write an algorithm & Draw a flowchart to reverse a given no. (for two digit no.)

Algo: 1: Start

2: Read Number 'N'

3: Reverse = 0

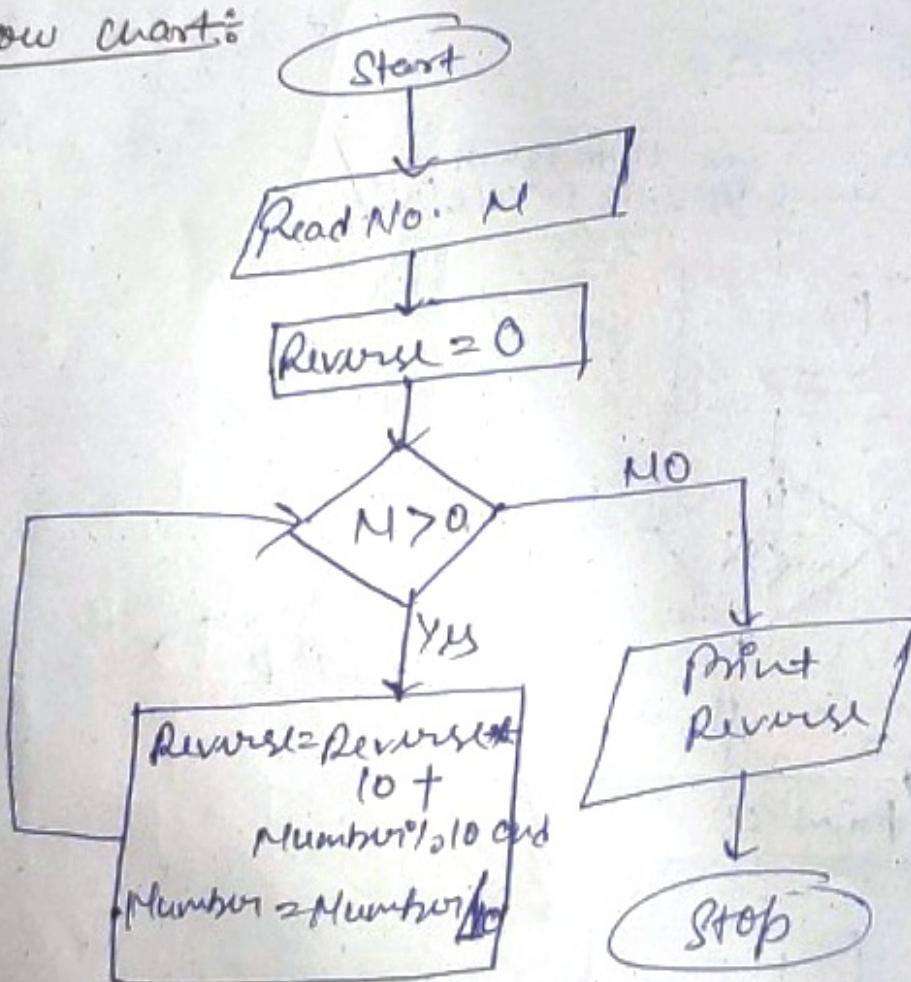
4: if $N > 0$

then Reverse = Reverse * 10 + Number % 10 &
Number = Number / 10 then go to Step 4

otherwise

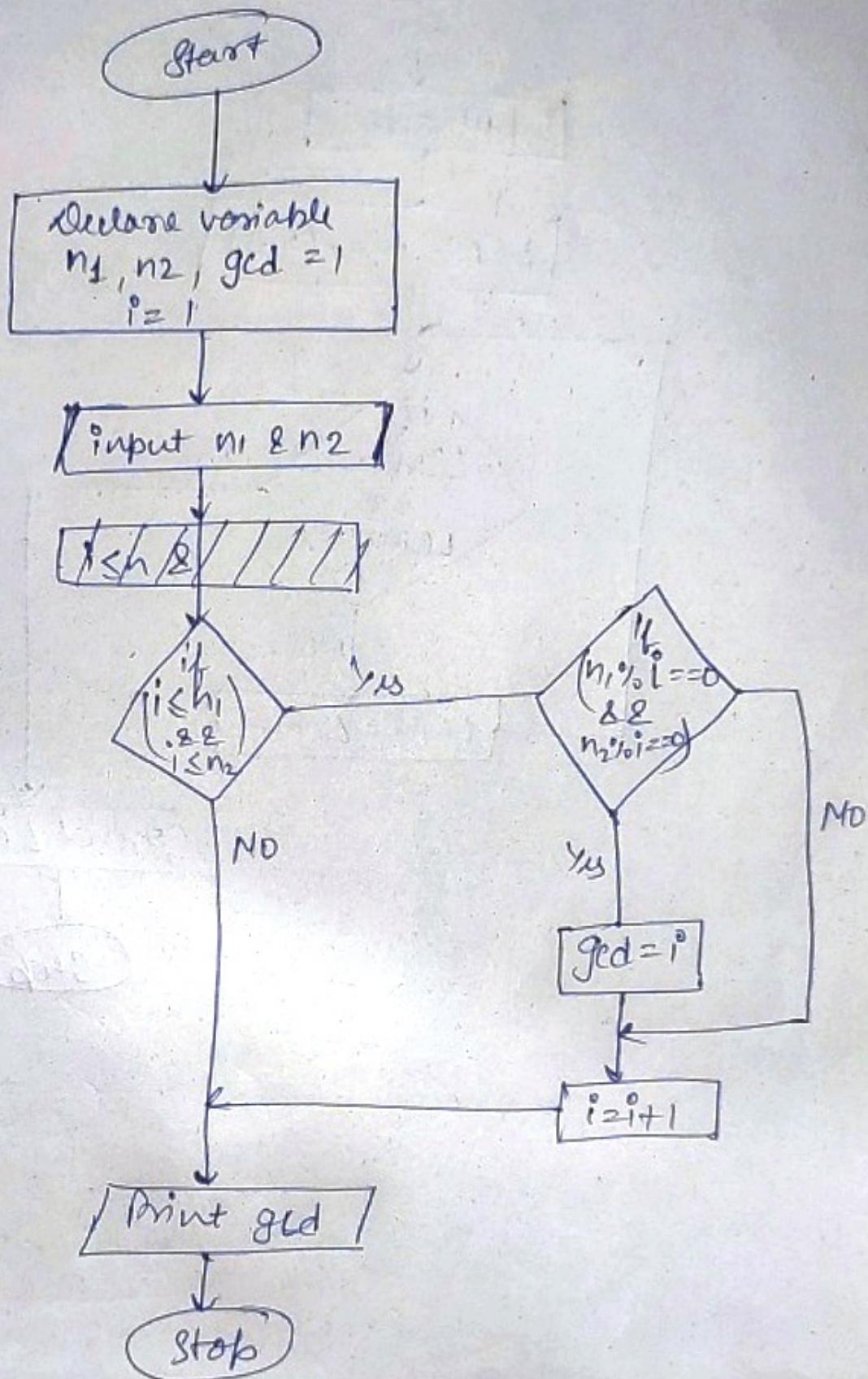
Print Reverse & Stop.

Flow chart:



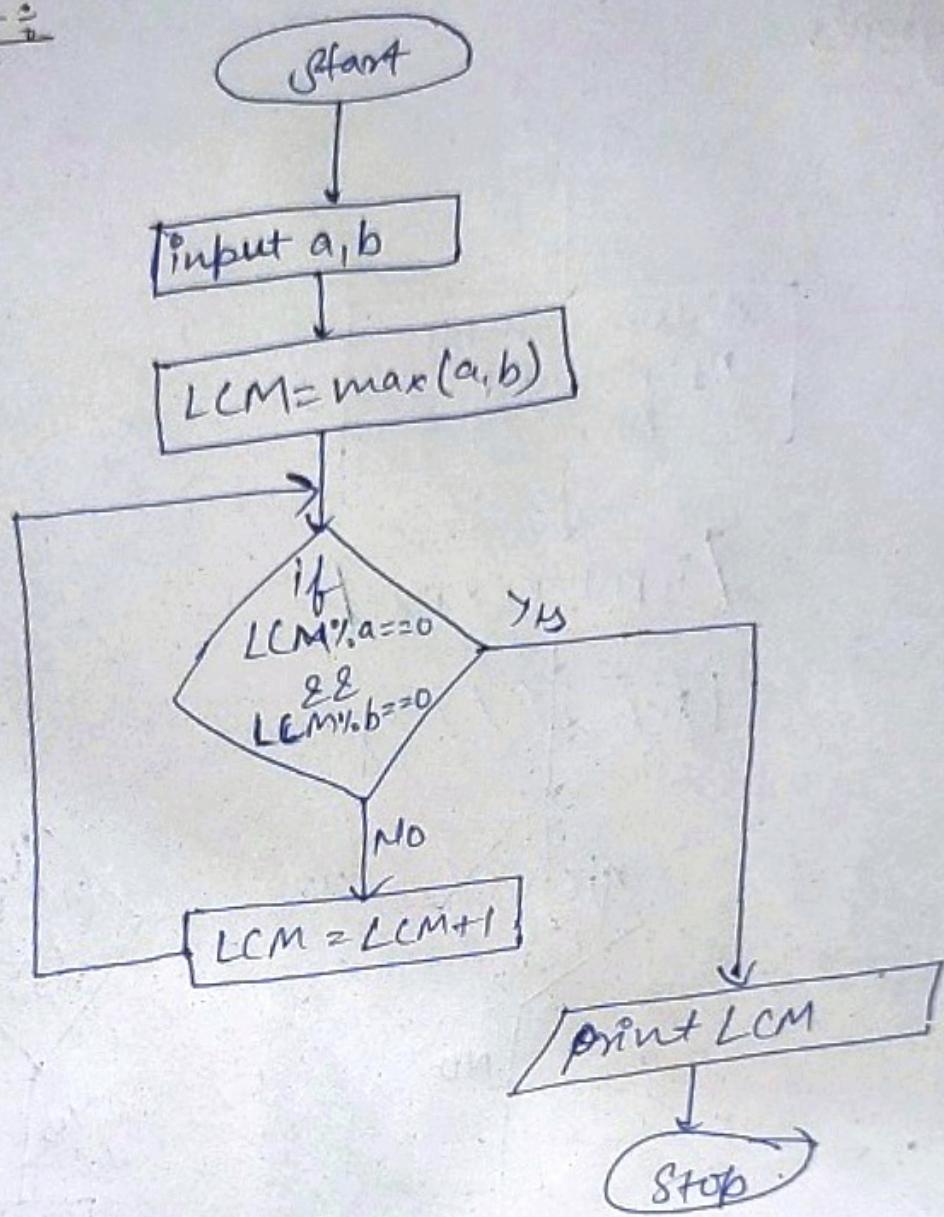
Q14: Write a program to find GCD of 2 Given no.

Flowdiagram:



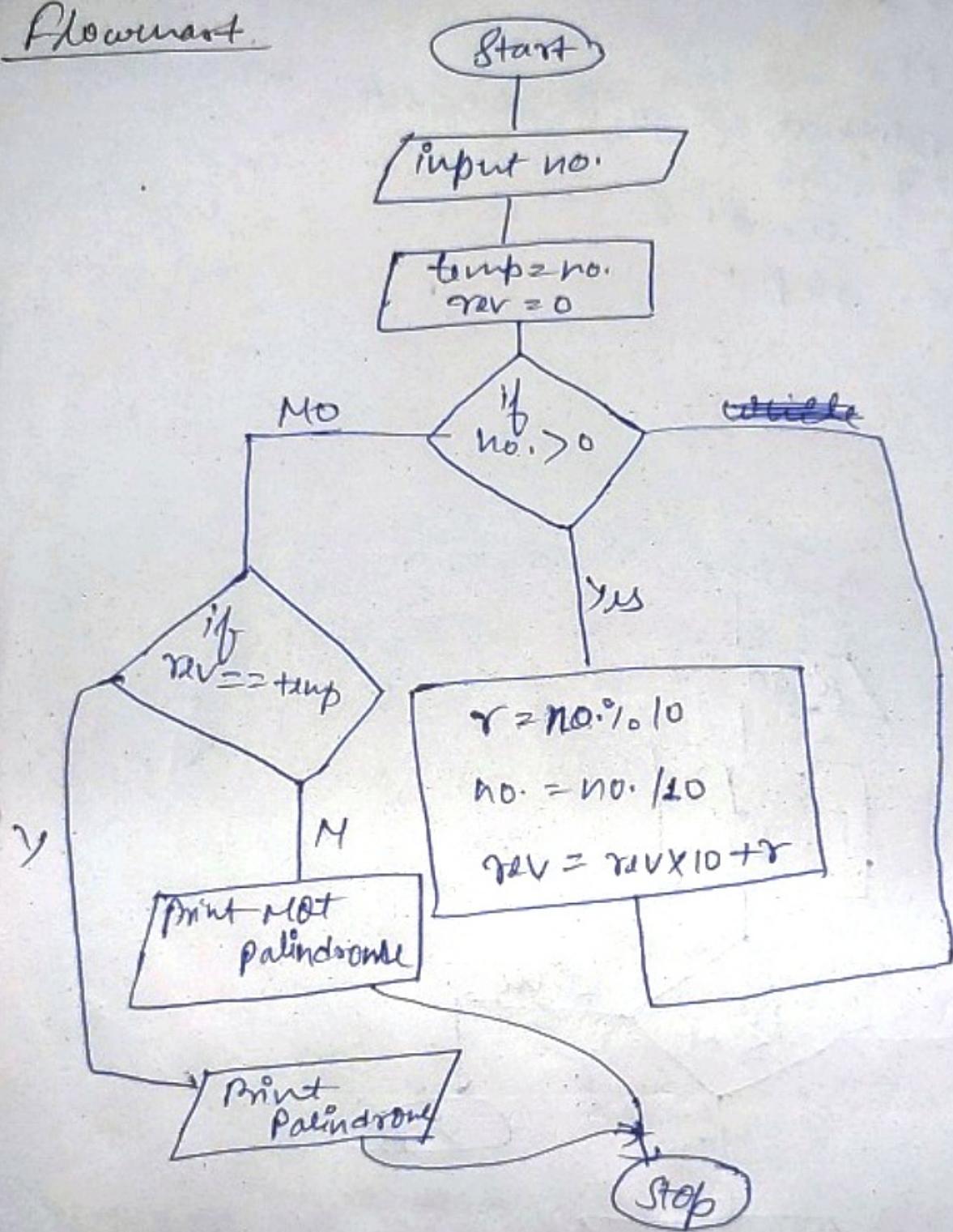
Q5 write a program to print LCM of 2 no.s.

Flowchart :-



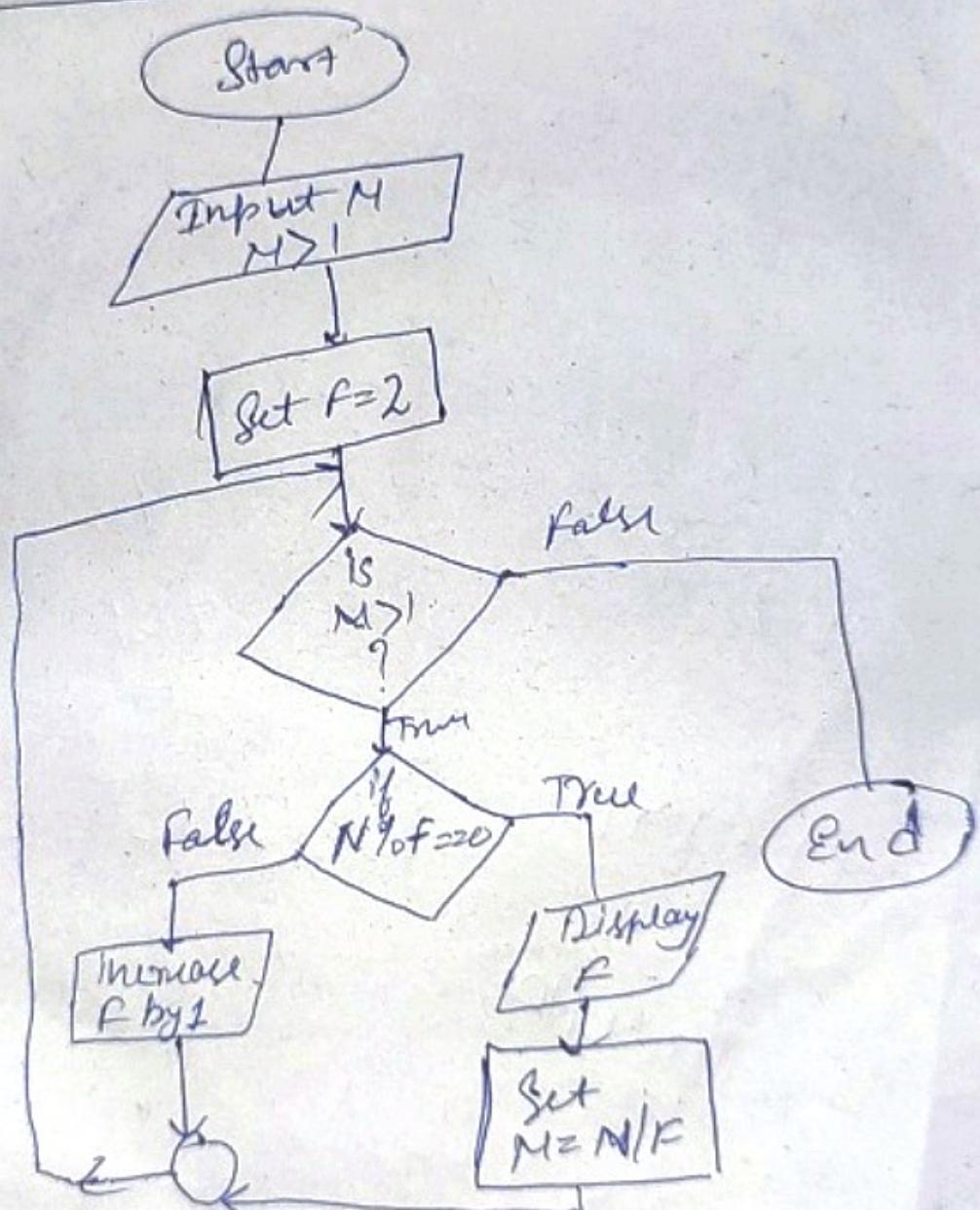
173 To check whether the given no. is palindrome or not.

Flowchart



Q) b) Flowchart to print all the prime factors of given no.

Flowchart:



Ques: Q6 print the following series EVEN numbers only
2, 4, 6, 8, 10, 12, 14, 16 ---

Also 1: Start

2: Enter N. upto which you want to print.

3: $i=1$ & $a=2$

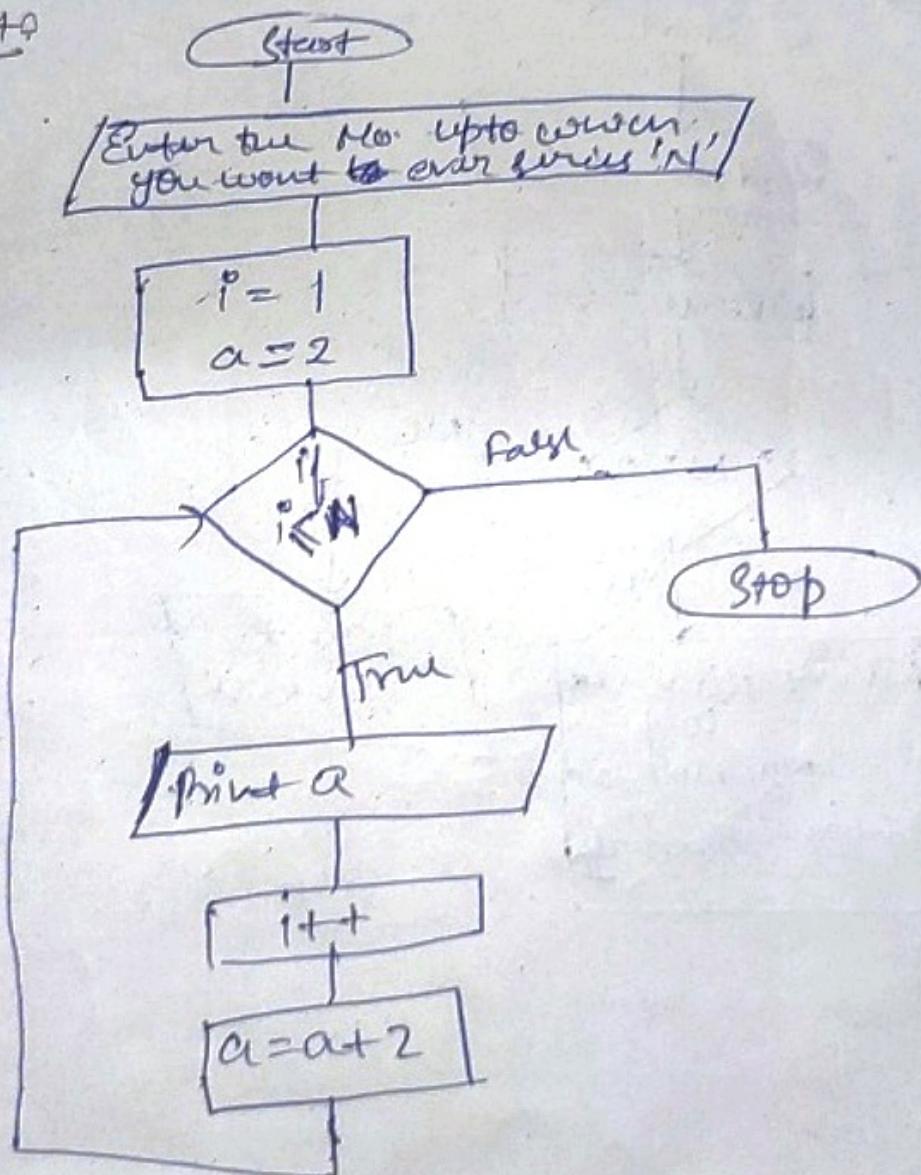
4: if $i \leq N$
then print a & goto next step otherwise go to 7.

5: $i=i+1$

6: $a=a+2$ & go to step 4

7: Stop

Flow chart



Write a program to print the following series of no's series 1, 3, 5, 7, 9, 11, ...

1. Start

2. Enter a M (upto which you want to print)

3. i=1 a=1

4. if $i \leq M$

then print a & go to next step, otherwise
go to 7.

5. i = i+1 & a=a+2

6. Go to step 4

7. Stop

Flow chart :-

