

Name :- Shrikrishna shivaram shigwan .
CDAC kharghar .

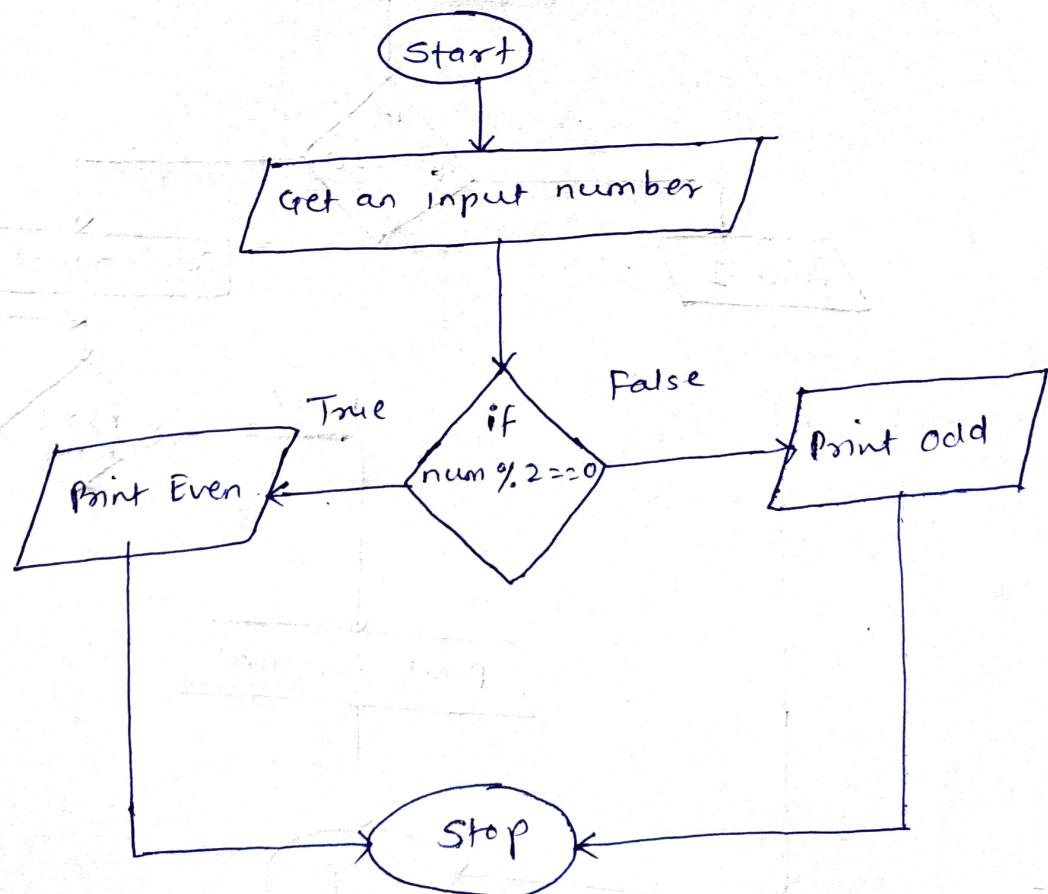
Q1) To check no is even or odd .

Ans :-

Algorithm :-

- 1) Start
- 2) Get an input number
- 3) Check whether it is odd or even using
 num \% 2 == 0
- 4) If true then print even number , else print
odd number
- 5) Stop

Flowchart :-

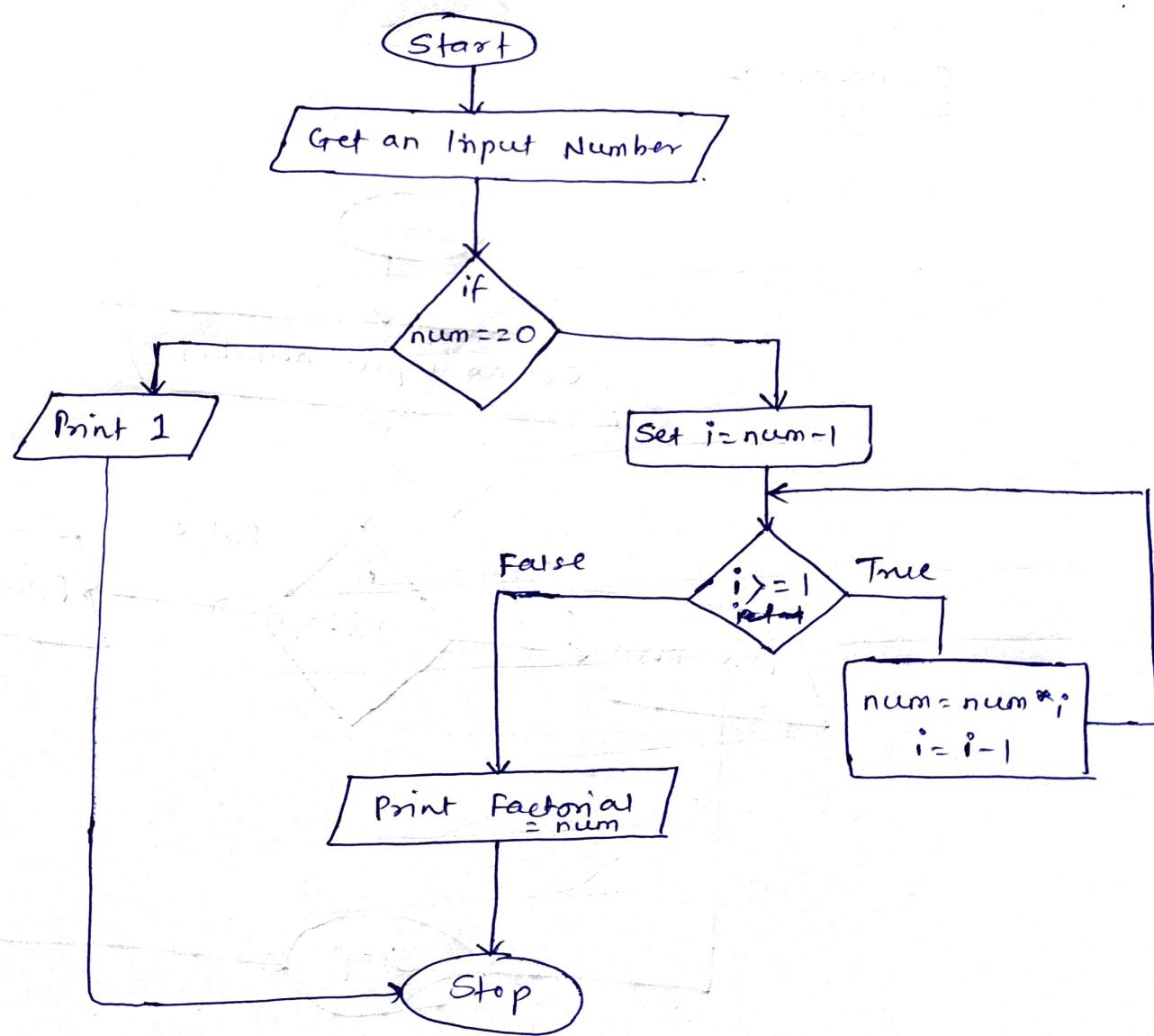


(Q2) Factorial of a given number.

→ Algorithm :-

- 1) Start
- 2) Get a number as a input
- 3) If num == 0, print factorial as 1.
- 4) Else, i = num - 1 and repeat until $i >= 1$
 - num = num * i
 - i = i - 1
- 5) Print factorial = num
- 6) Stop.

Flowchart



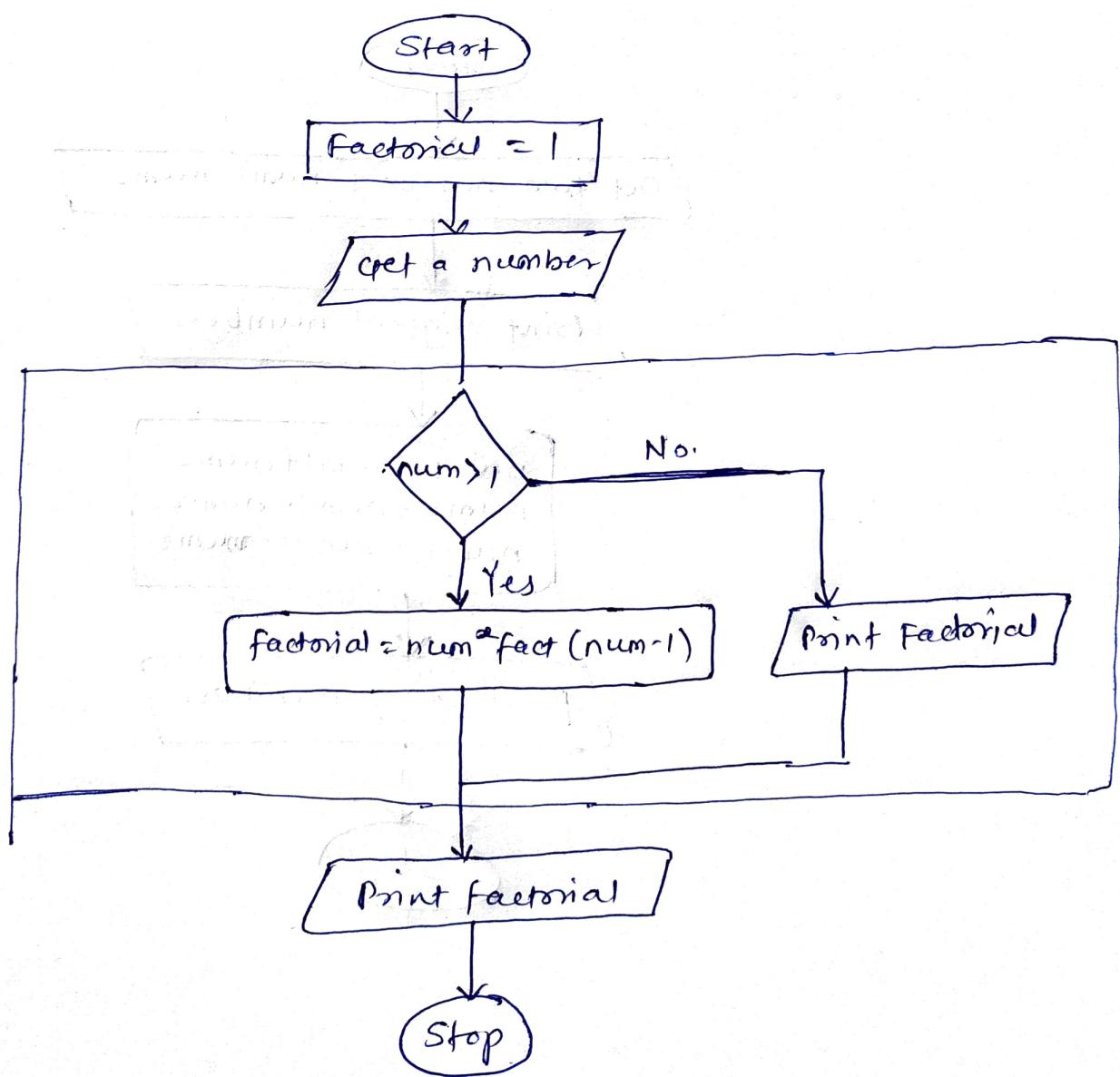
Q3) Factorial using recursion

Ans :

Algorithm

- 1) Start
- 2) Declare variable fact = 1
- 3) Get a number from user 'num'
- 4) Call method facto(number) recursively until value of number > 1
- 5) Print factorial
- 6) Stop.

Flowchart :-



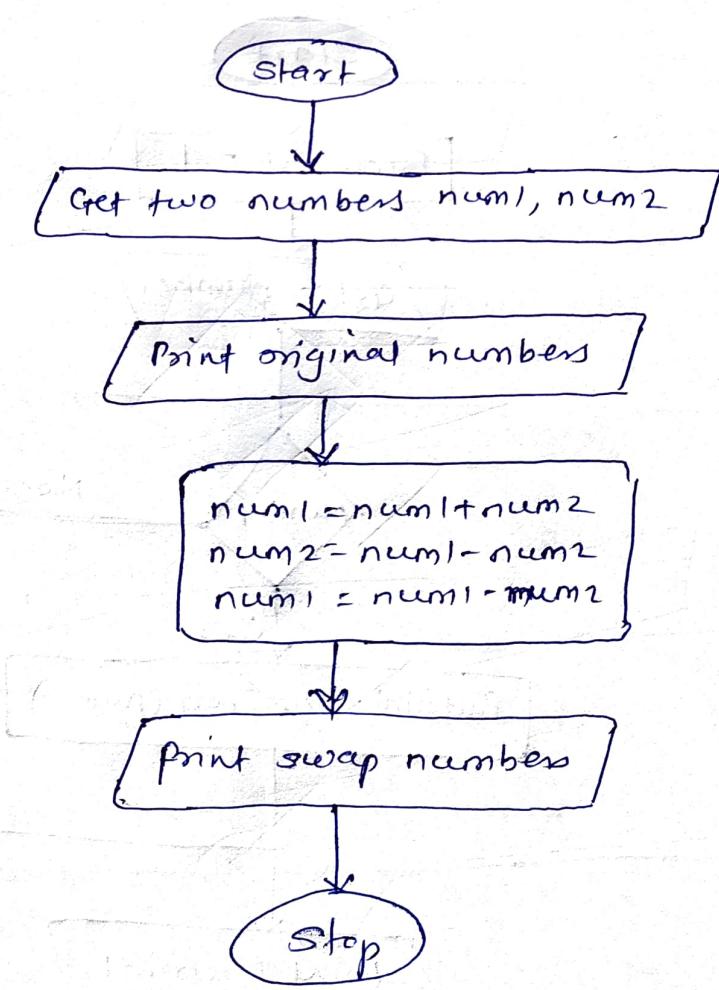
Q4) Swap two numbers without using third variable

Ans :-

Algorithm :-

- 1) Start
- 2) Get two numbers num1, num2
- 3) Print unswap numbers
- 4) $\text{num1} = \text{num1} + \text{num2}$
 $\text{num2} = \text{num1} - \text{num2}$
 $\text{num1} = \text{num1} - \text{num2}$
- 5) Print swap numbers
- 6) Stop.

Flowchart :-



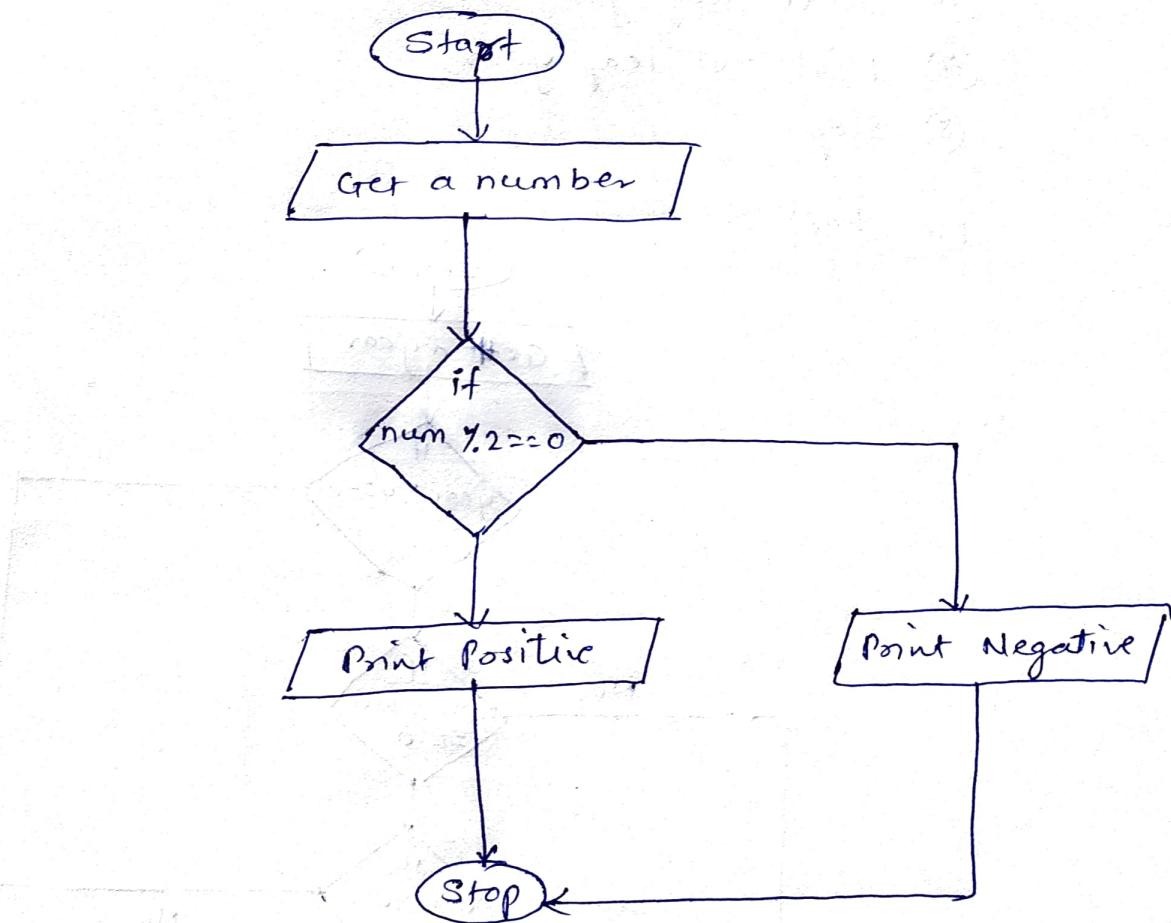
Q5) Check given no is positive or negative

Ans :-

Algorithm :-

- 1) Stop
- 2) Get a number
- 3) check number % 2 == 0
 If true, print Positive
 Else print Negative.
- 4) Stop .

Flowchart :-



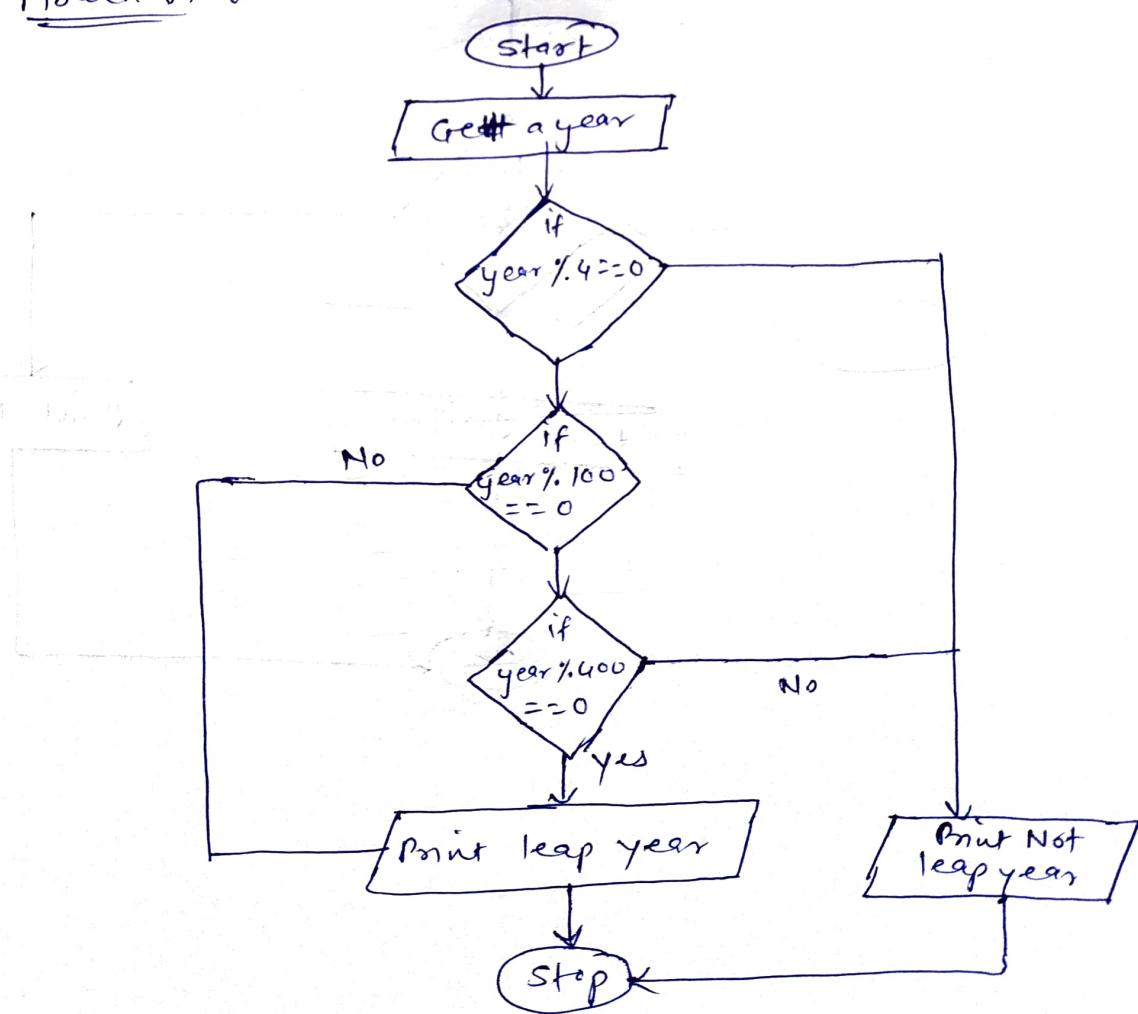
Q6) leap year.

Ans :-

Algorithm :-

- ① Start
- ② Get a input year
- ③ check year divisible by 4, if true goto step 4
else goto step 7
- ④ check year divisible by 100, if true goto step 5
else go-to step 6
- ⑤ check year divisible by 400, if true goto step 6.
else goto step 7.
- ⑥ Print leap year
- ⑦ Print not leap year
- ⑧ Stop.

Flowchart :-



Q7) Print 1 to 10 without loop

Ans :-

Algorithm :-

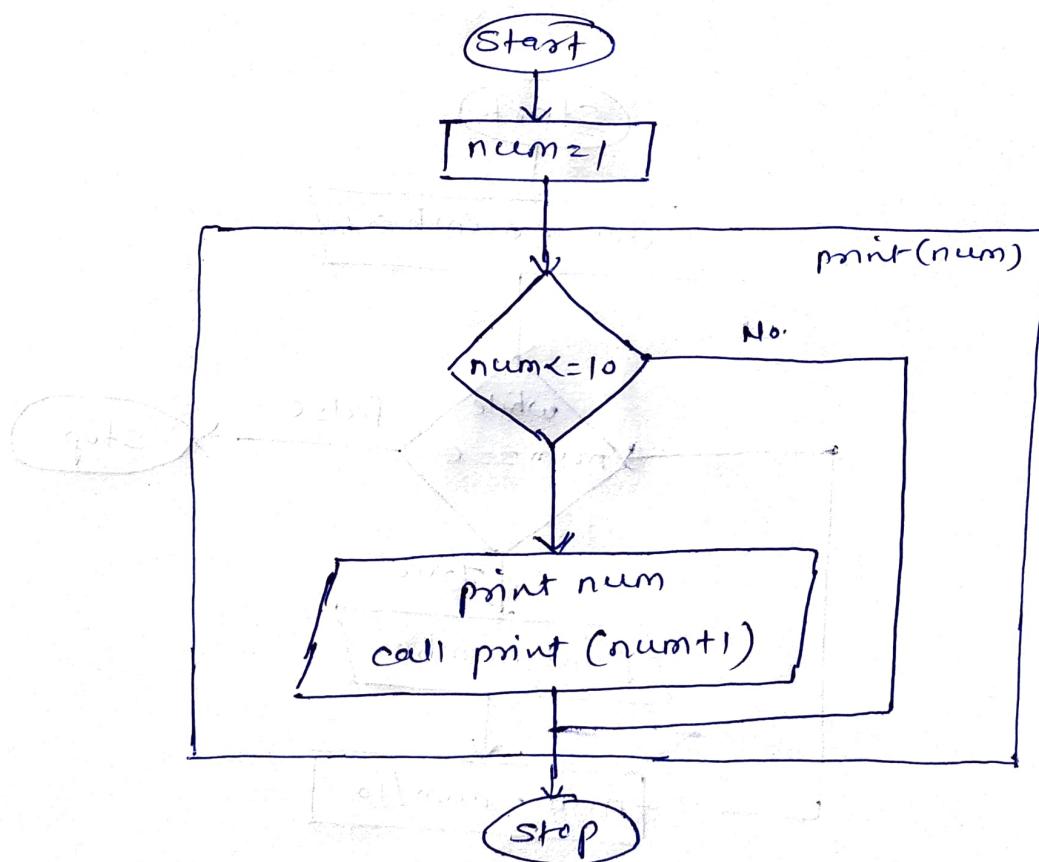
- ① Start
- ② call print method

- ③ Define a method print

Check $num <= 10$ if true print and
recursively call print method with $num-1$,
else exit.

- ④ Stop.

Flowchart :-



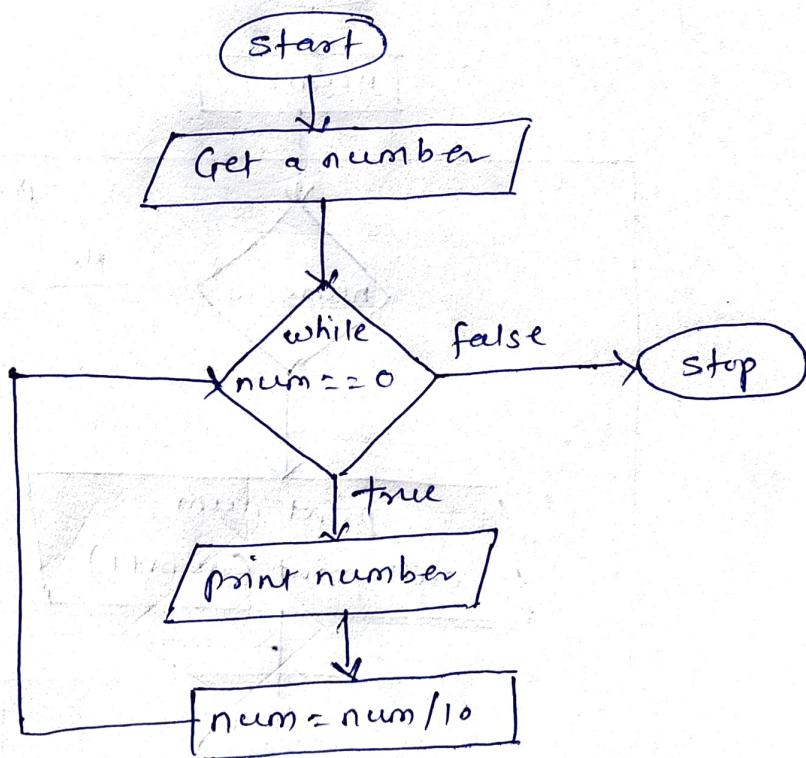
Q8) Print the digit of given number

Ans :-

Algorithm :-

- ① start
- ② Get a number
- ③ Print the value of num % 10
- ④ num = num / 10;
- ⑤ Repeat step 3 to 4 until number is not equal to zero
- ⑥ stop

Flowchart :-



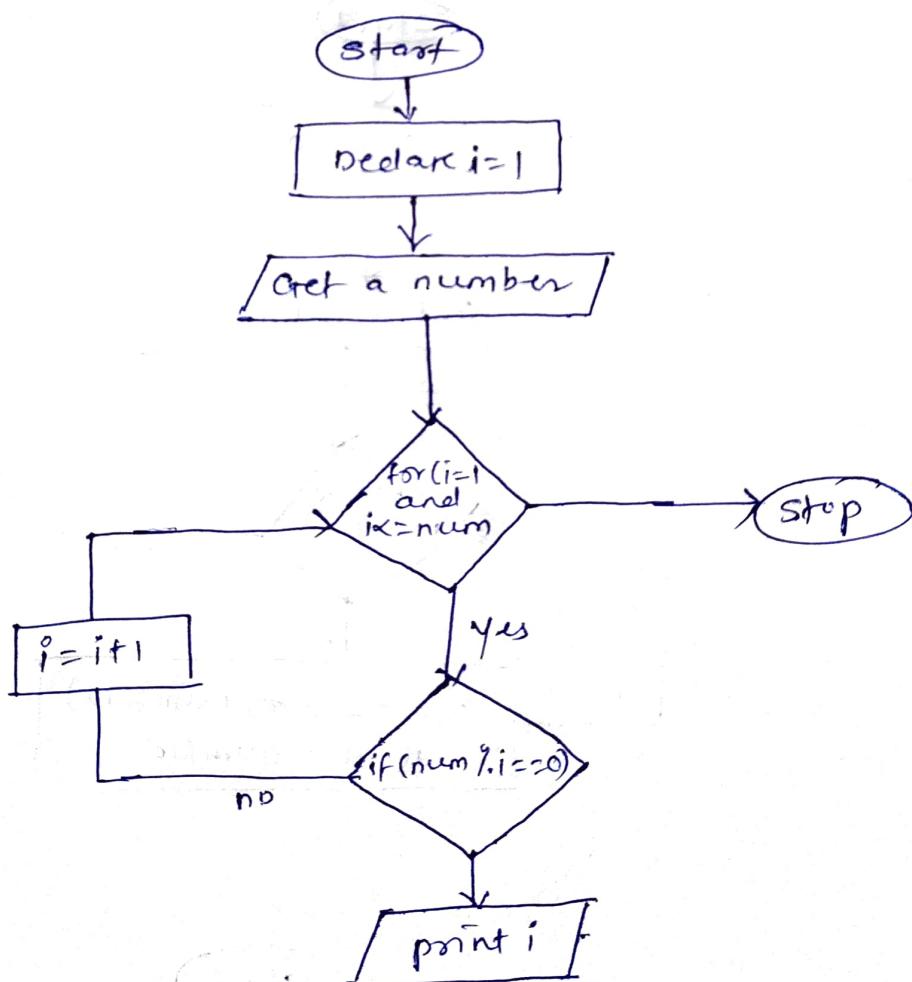
Q9) Factor of a given number

Ans :-

Algorithm :-

- ① start
- ② Get a number
- ③ Declare $i=1$
- ④ Check number $\% i == 0$, if true print i and increment the value of i .
- ⑤ Repeat step 4 until $i <= \text{number}$
- ⑥ stop

flowchart :-



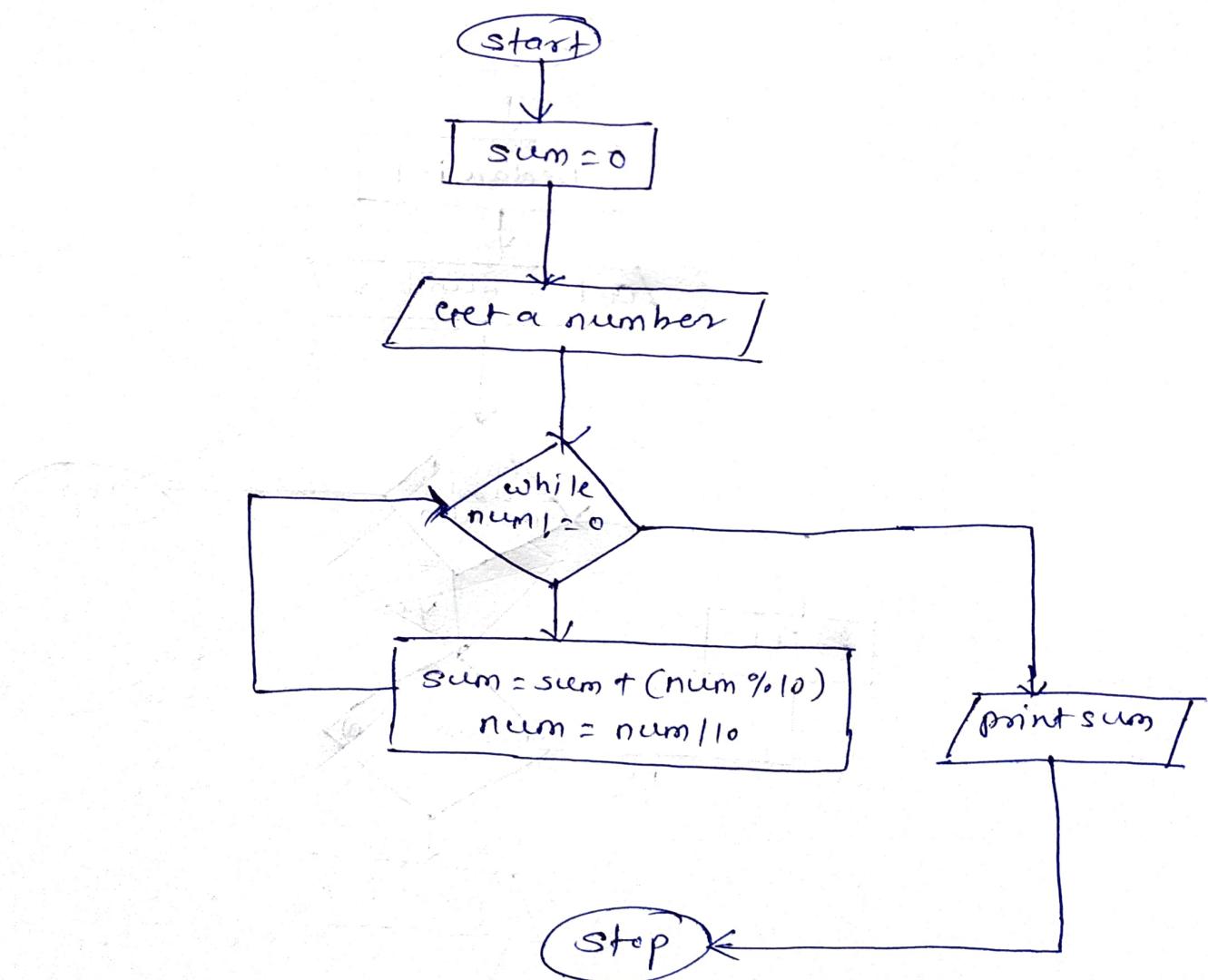
Q10) sum of digit of given number

Ans :-

Algorithm :-

- ① start
- ② get a number
- ③ set sum = 0
- ④ while (num != 0)
 - sum = sum + (num % 10)
 - num = num / 10
- ⑤ Print sum
- ⑥ stop .

Flowchart :-



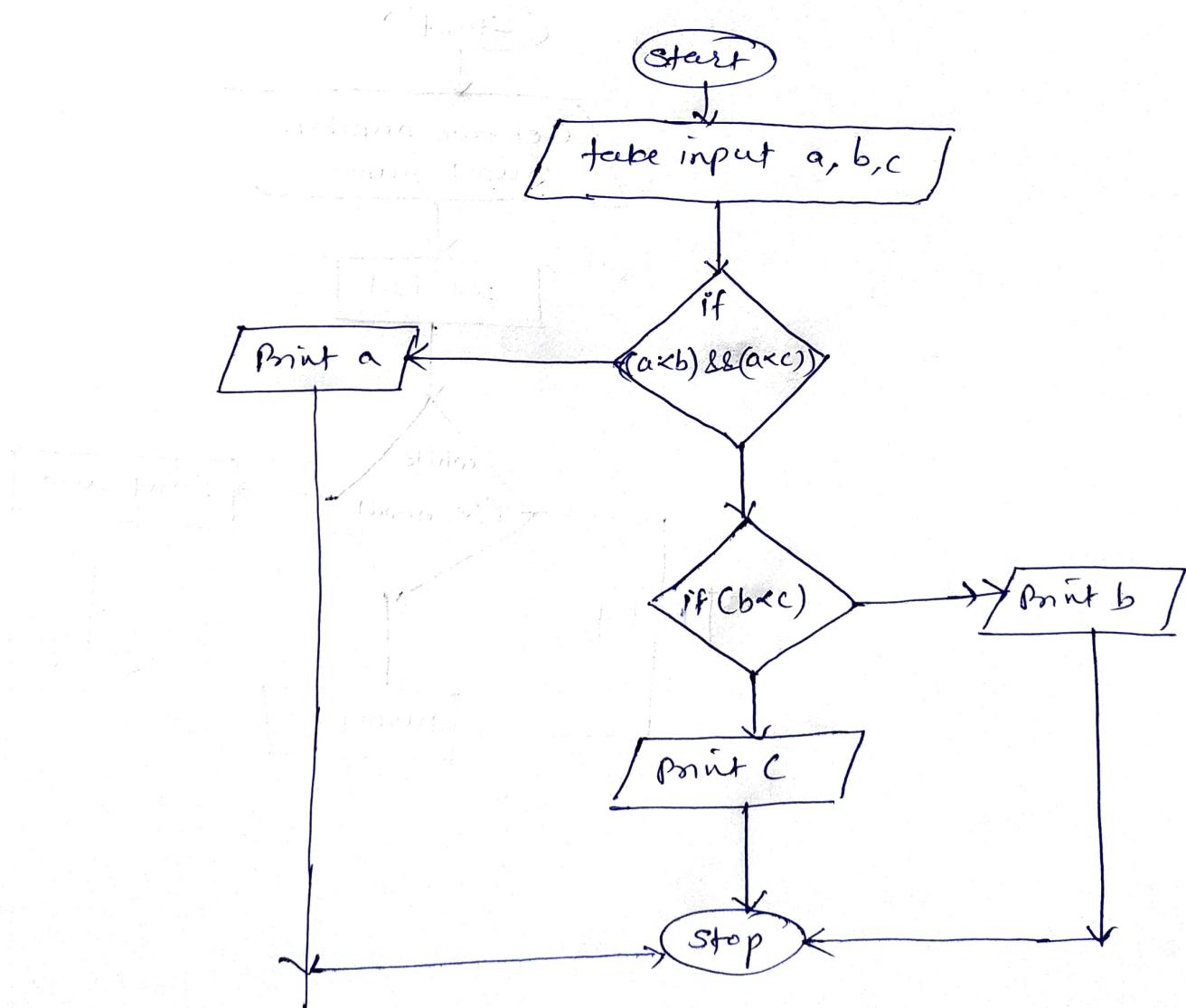
E11) smallest of three numbers

Ans :-

Algorithm :-

- ① start
- ② Get three numbers from user
- ③ check if $a < b$ and $a < c$, if true print a and exit, else go to step 4
- ④ check if $b < a$ and $b < c$, if true print b and exit else goto step 5
- ⑤ Print c
- ⑥ stop

Flowchart :-



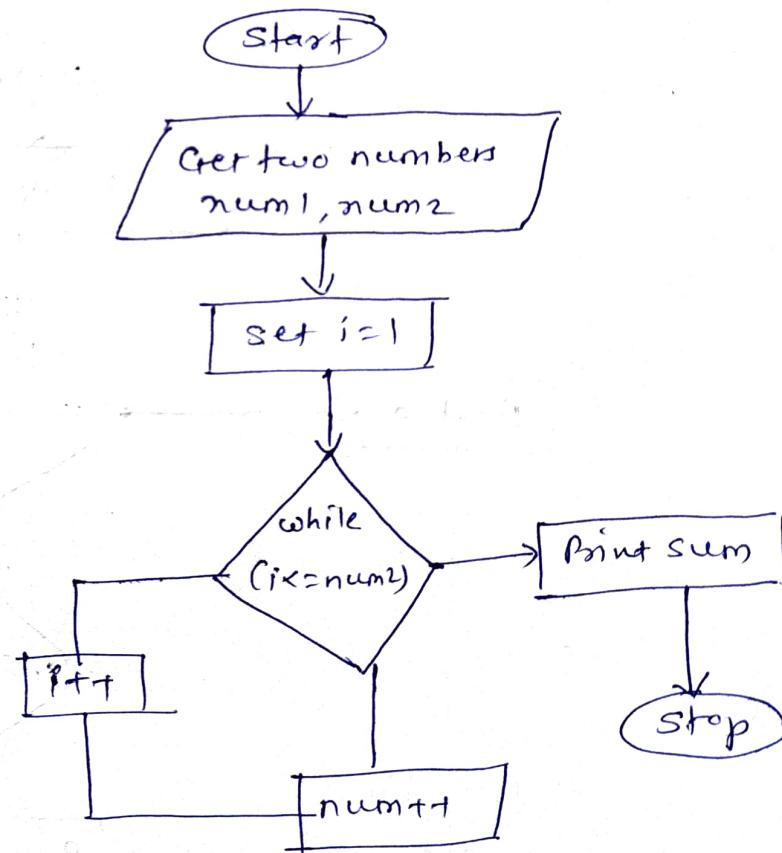
Q12). Addition without using arithmetic operators

Ans :-

Algorithm :-

- ① start
- ② Get two numbers
- ③ Call addNum (num1, num2) method
- ④ For (i=1 ; i<=num2 ; i++)
 a. num++
- ⑤ Print sum
- ⑥ stop

Flowchart :-



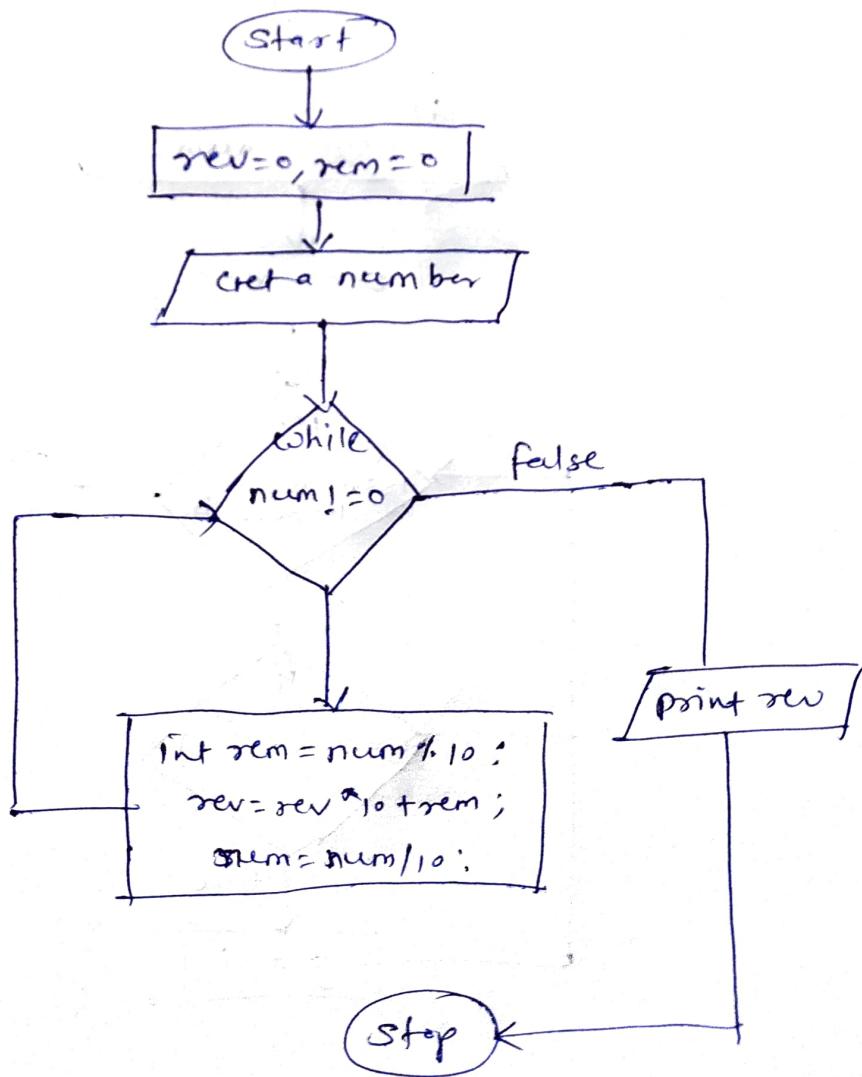
Q13) Reverse a given number.

Ans :

Algorithm :-

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

Flowchart :-



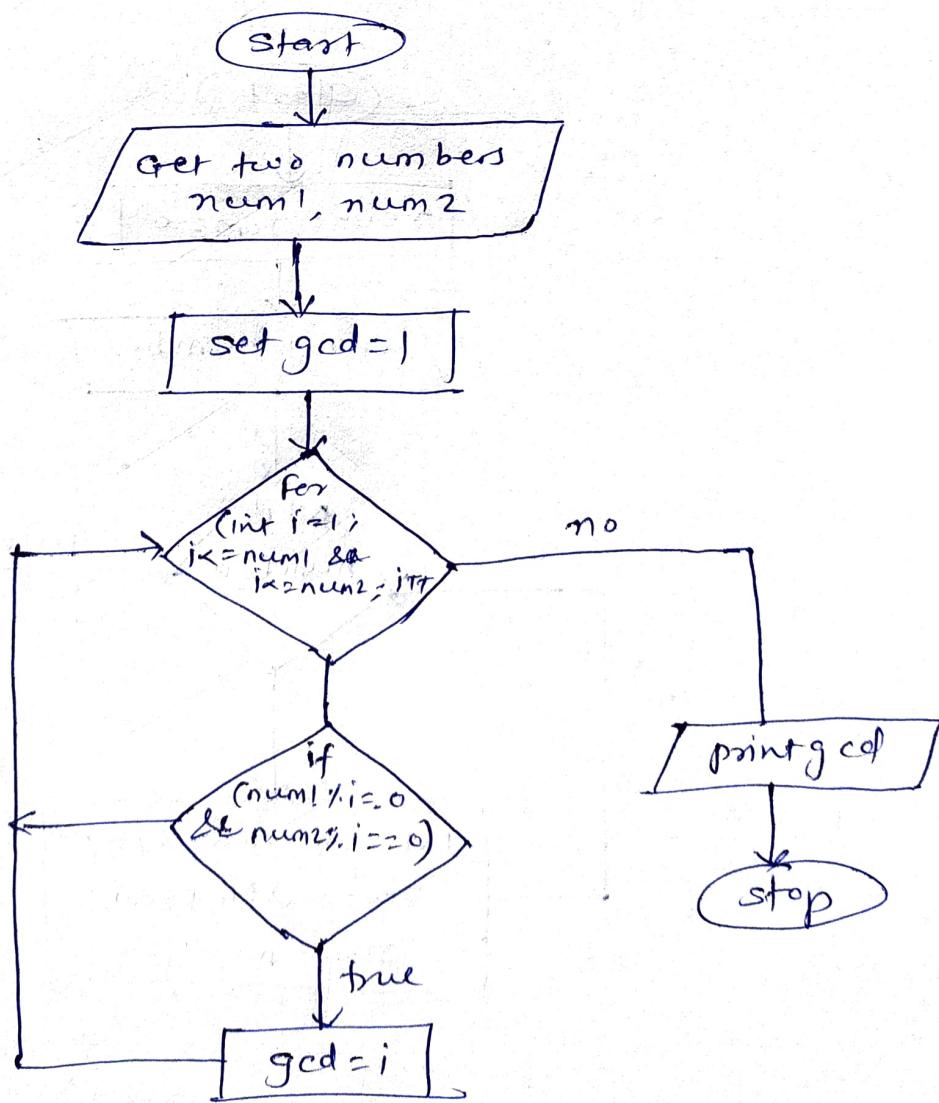
Q14) GCD of two numbers

Ans :-

Algorithm :-

- ① Start
- ② Get two numbers 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.

Flowchart :



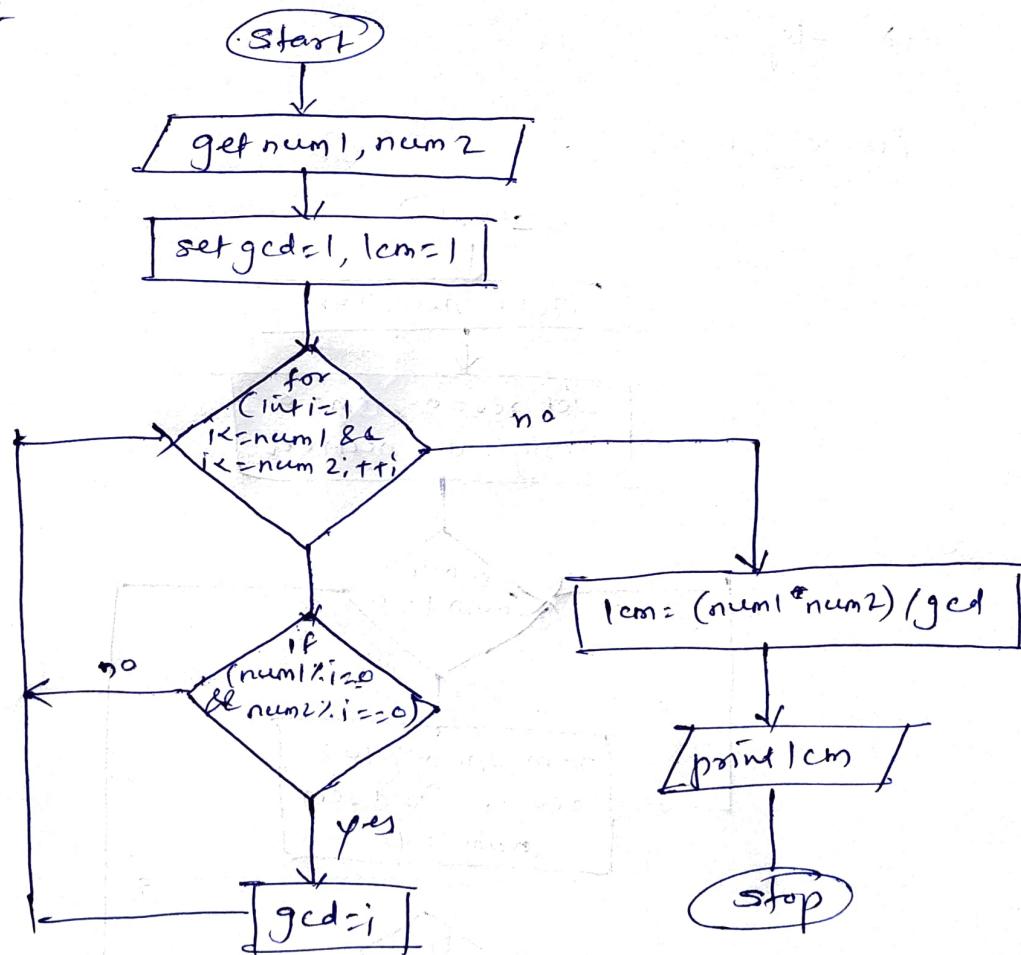
Q15) Lcm of two numbers

Ans :-

Algorithm :-

- ① start
- ② Get two numbers 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 :-



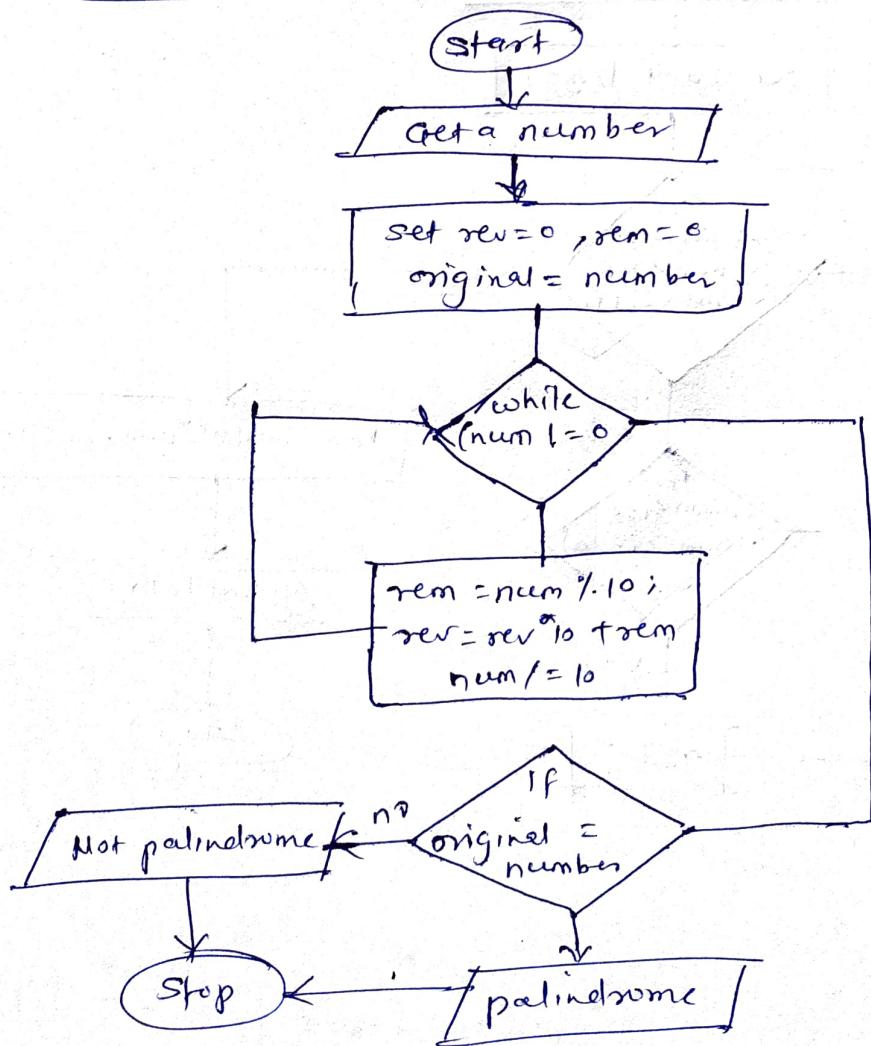
Q17) Check palindrome or not

Ans :-

Algorithm :-

- ① Start
- ② Get a number
- ③ set reverse = 0 and remainder = 0
- ④ set original = number
- ⑤ check number != 0, if true goto 6 else goto 7
- ⑥ rem = num % 10
rev = rev * 10 + rem;
num /= 10;
- ⑦ check if original == number if true print palindrome
else print not palindrome
- ⑧ Stop.

Flowchart :-



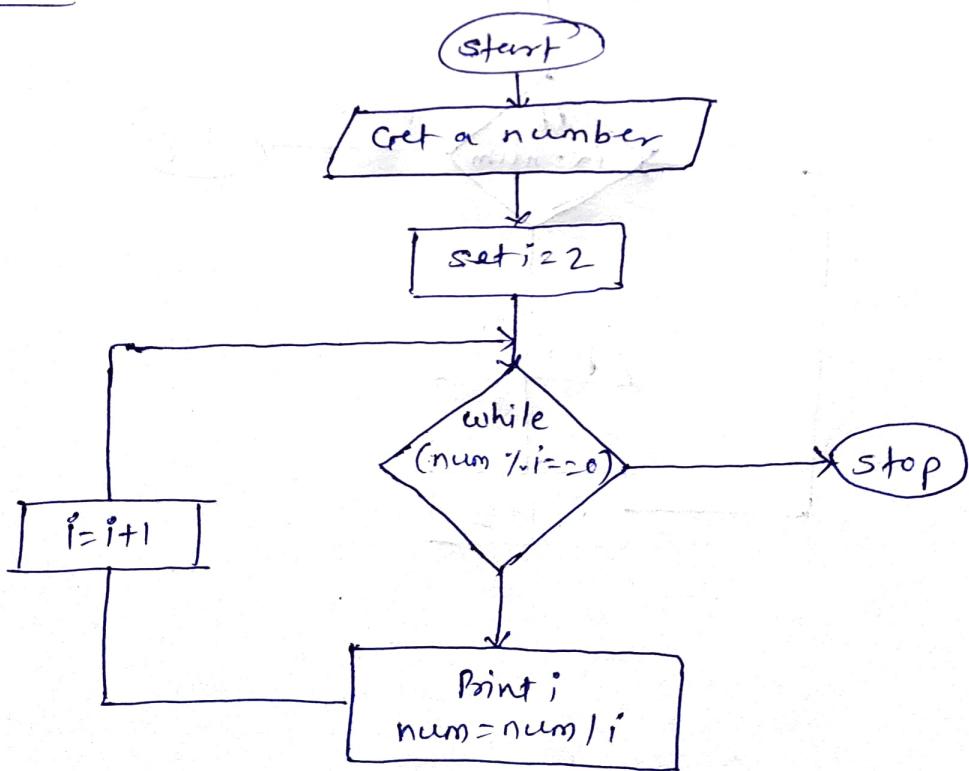
Q18) Prime factor of a given number.

Ans :-

Algorithm :-

- ① Start
- ② Enter the number
- ③ Take $i=2$
- ④ ~~check whether it is odd or even using $\text{num} \% 2 == 0$~~
- ⑤ Check whether input number is greater than , then enter in loop .
 - a. while (num is greater than 1)
 - b. Check condition IF ($\text{num} \% i == 0$)
 - c. if it is true enter in bracket
 - d. print (i) value on terminal
 - e. $\text{Number} = \text{Number}/i$ else it will loop again
5. Stop

Flowchart :-



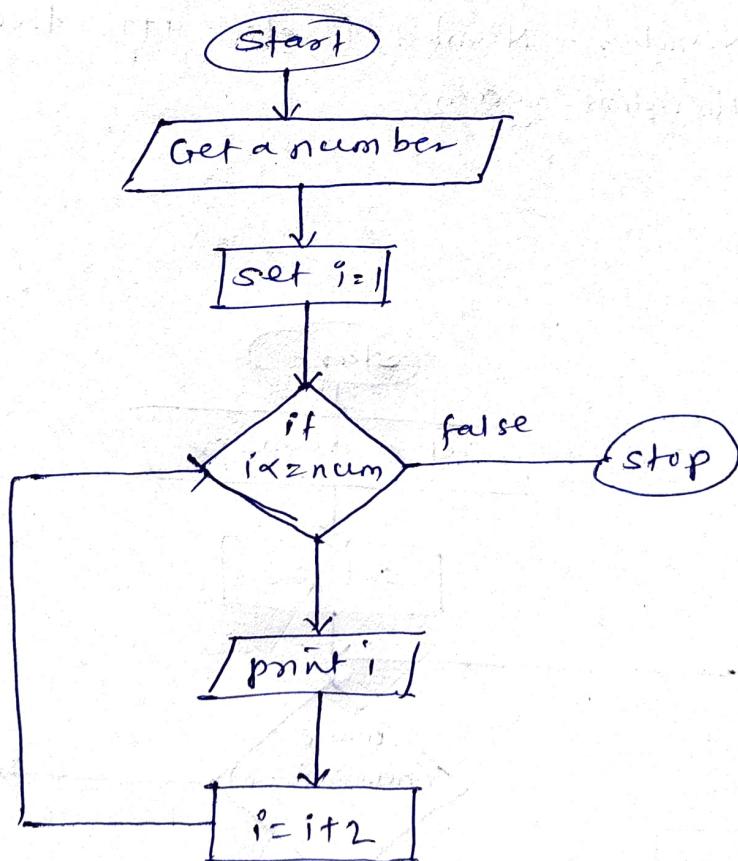
Q19) Even series

Ans:

Algorithm

- ① Start
- ② Get a number from user upto which they want to print even number
- ③ set $i=2$
- ④ If $i <= \text{number}$, print i and $i=i+2$. Else goto step 6
- ⑤ Repeat step 4 until $i > \text{number}$
- ⑥ Stop

Flowchart :-



Q20) Odd series

Ans :-

Algorithm :-

- ① start
- ② get a number from user upto which they want to print even number
- ③ set $i=1$
- ④ If $i <= \text{number}$, print i and $i = i + 2$. Else goto step 6
- ⑤ Repeat step 4 until $i > \text{number}$
- ⑥ stop

Flowchart :-

