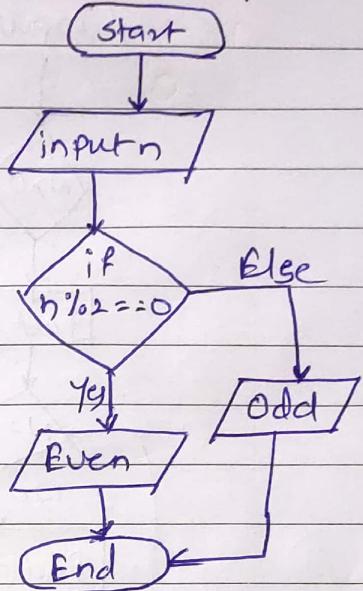


Assignment - 1

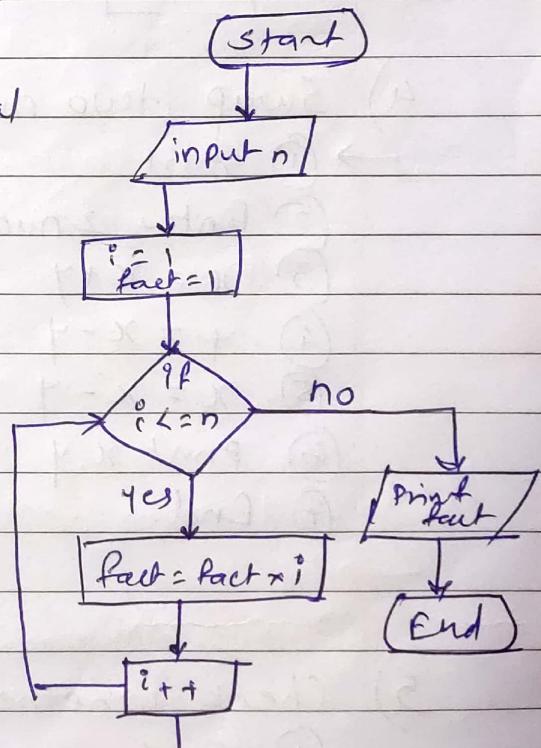
1) Check if the given number is Even or ODD?

- ① Start
- ② input the number n
- ③ if $n \% 2 == 0$, number is even
- ④ else number is odd
- ⑤ Display output
- ⑥ End.



2) Find the factorial of given number

- ① Start
- ② input the number whose factorial is to be find, n .
- ③ initialize :- $i=1$, fact = 1
- ④ if $i \leq n$,
- yes → calculate $fact = fact \times i$
- increment the i by $i+1$ & step 4,
- ⑤ Else stop.
- ⑥ Stop

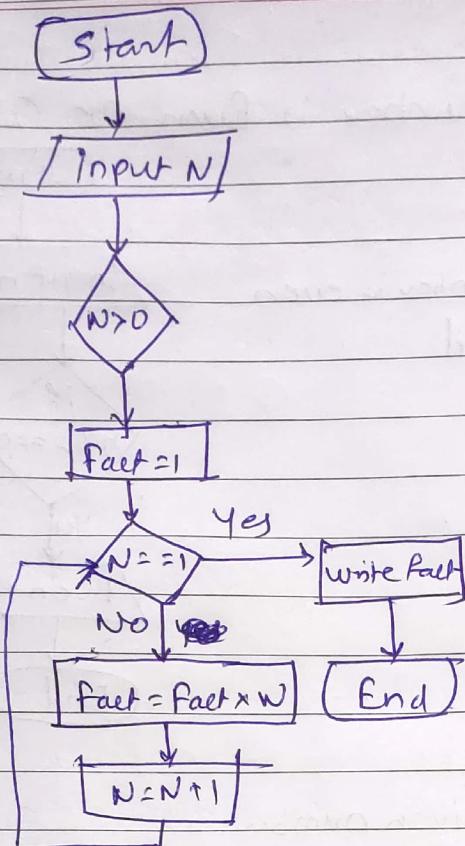


3) Factorial of a number using Recursion.

- ① Start
- ② Read n
- ③ Call $factorial(n)$ & print f .
- ④ End.

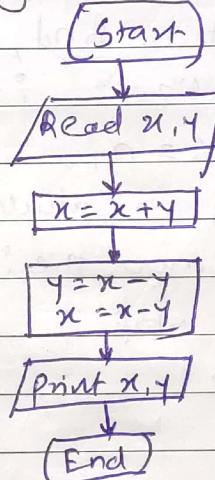
$factorial(n)$

- ① if $n == 1$, return 1
- ② Else $f = n \times factorial(n-1)$
- ③ Return f .



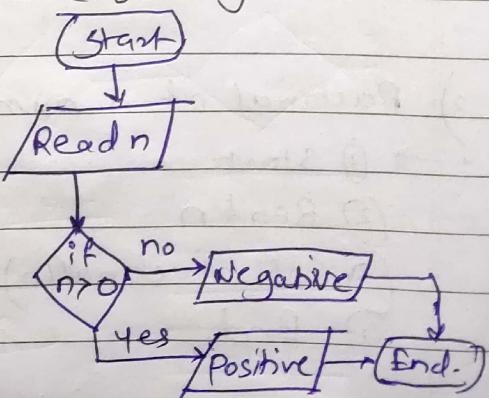
4) Swap two numbers w/o using the third variable.

- ① Start
- ② Enter 2 numbers $x \neq y$
- ③ $x = x + y$
- ④ $y = x - y$
- ⑤ $x = x - y$
- ⑥ print x, y
- ⑦ End.



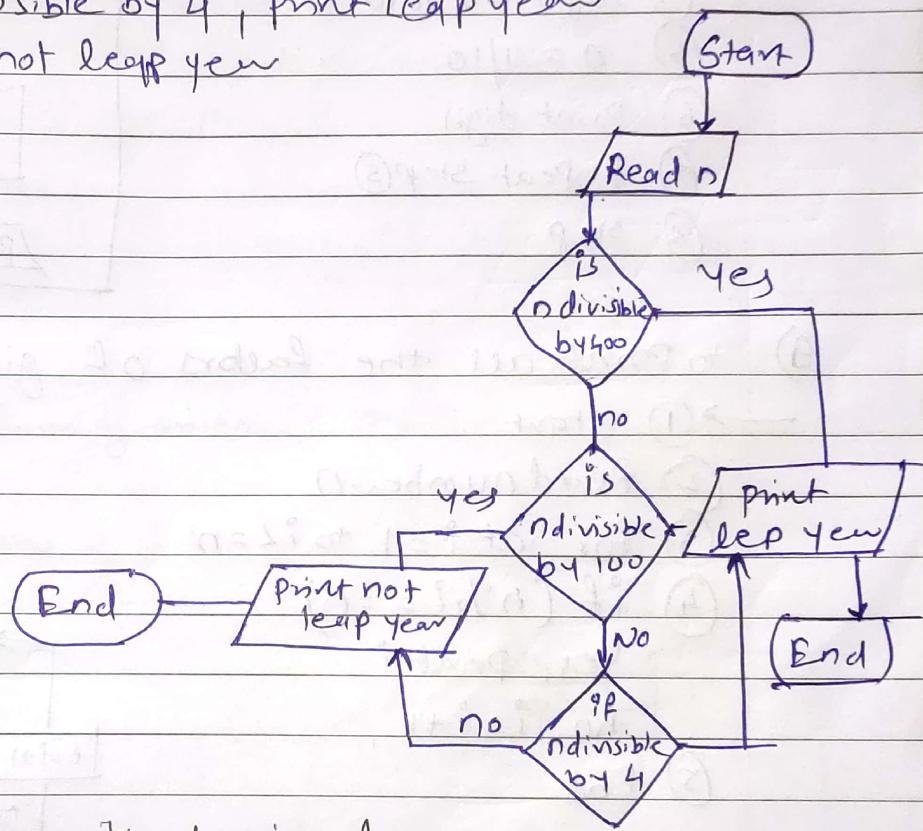
5) Check whether number positive or Negative.

- ① Start
- ② Read n
- ③ is $n > 0$
- yes → Print Positive
- no → Print Negative
- ④ End.



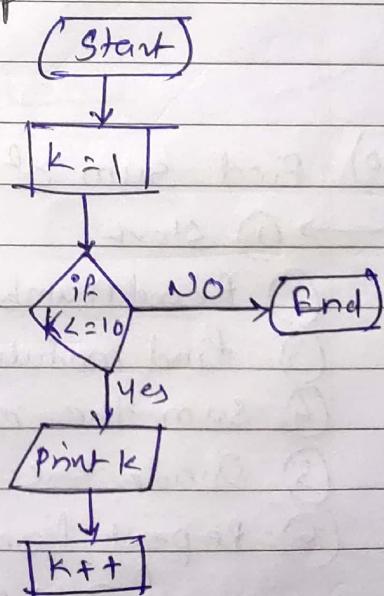
6) find whether given number is leap year or not.

- ① Start
- ② Read number n
- ③ if n divisible by 400, print leap year
else if n divisible by 100, print not leap year
else if n divisible by 4, print leap year
else print not leap year
- ④ End.



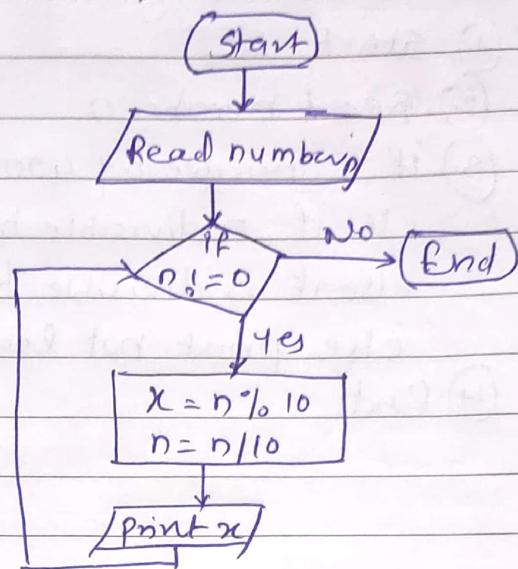
7) print 1 to 10 using without using loop.

- ① Start
- ② declare int K = 1
- ③ print k
- ④ increment K by 1
- ⑤ if $K \leq 10$, step ③
else step ⑥
- ⑥ End.



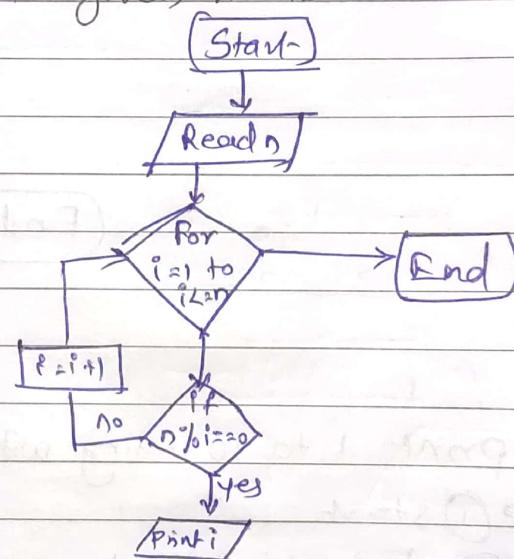
8) to print the digits of given number.

- ① Start
- ② Read number a
- ③ if $a \neq 0$, Go to ④
else Go to ⑧
- ④ digit = $a \% 10$
- ⑤ $a = a / 10$
- ⑥ Print digit
- ⑦ Repeat step ③
- ⑧ Stop



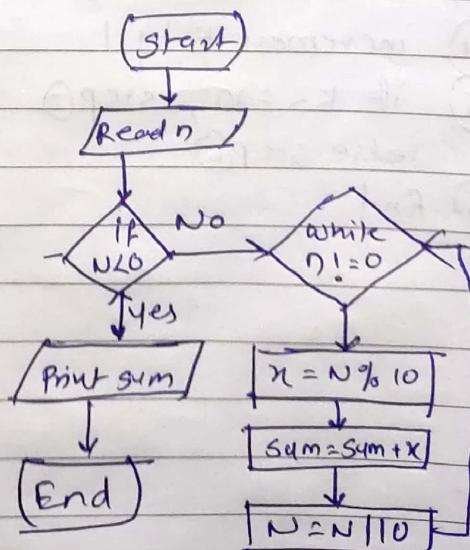
9) to print all the factors of given number

- ① Start
- ② Read number n
- ③ for int $i=1$ to $i \leq n$
- ④ if ($n \% i == 0$)
Yes, Print i
No, $i = i + 1$
- ⑤ End.



10) Find sum of digits of given number.

- ① Start
- ② Read number a
- ③ find modulus of a
- ④ sum the remainder
- ⑤ divide the number by 10
- ⑥ Repeat from step ② until
($a \neq 0$)
- ⑦ Print sum
- ⑧ End.



11) Find the smallest betw 3 numbers (a, b, c).

→ ① start

② Read a, b, c

③ if $a < b$,

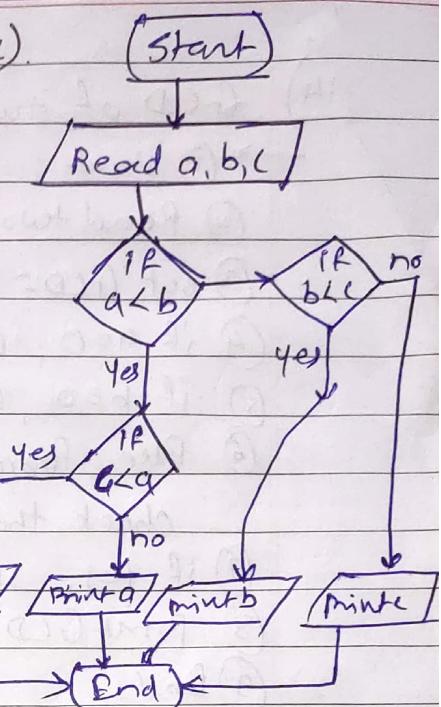
Yes, if $b < a$, Yes print a, c , No

No print a

No, if $b < c$, Yes print b

No print c

④ End



12) Add two numbers w/o using arithmetic operator

→ ① start

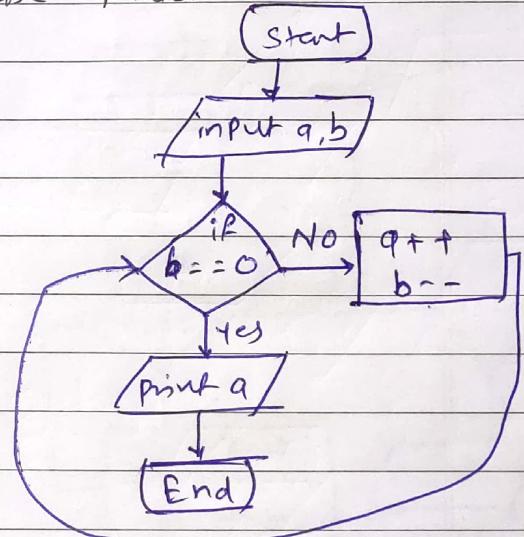
② Read two numbers a & b

③ if $b == 0$,

Yes print a

No, a++, b--

④ End



13) Reverse the given number

→ ① start

② Read number n

③ Set a=0, b=n

④ While $n > 0$,

Yes, Set $r = n \% 10$

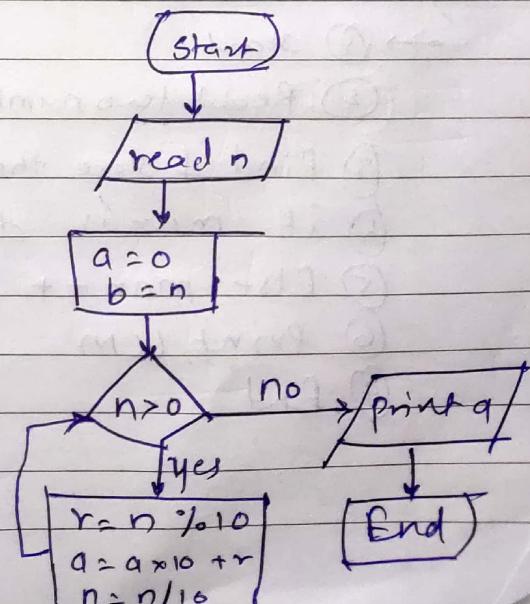
No, print a.

⑤ Set $a = a \times 10 + r$

⑥ Set $n = n / 10$, step ④

⑦ Print a

⑧ End.



14) GCD of two numbers

→ ① Start

② Read two numbers a, b

③ set $GCD = 1$

④ if $a=0$, $GCD = b$

⑤ if $b=0$, $GCD = a$

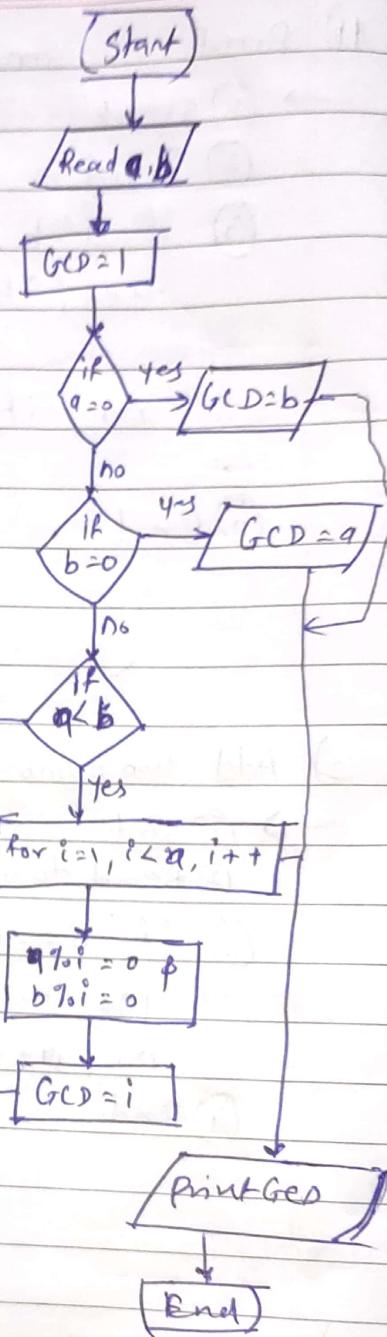
⑥ Else from 1 to minimum of (a, b)

check the number divides a & b both.

⑦ If yes, store in GCD

⑧ Print GCD

⑨ End



15) LCM of two numbers

→ ① Start

② Read two numbers $n & y$

③ Find & store the maximum of $n & y$ as max()

④ If max is divisible by $n & y$, max is LCM.

⑤ Else max++, step ③.

⑥ Print LCM

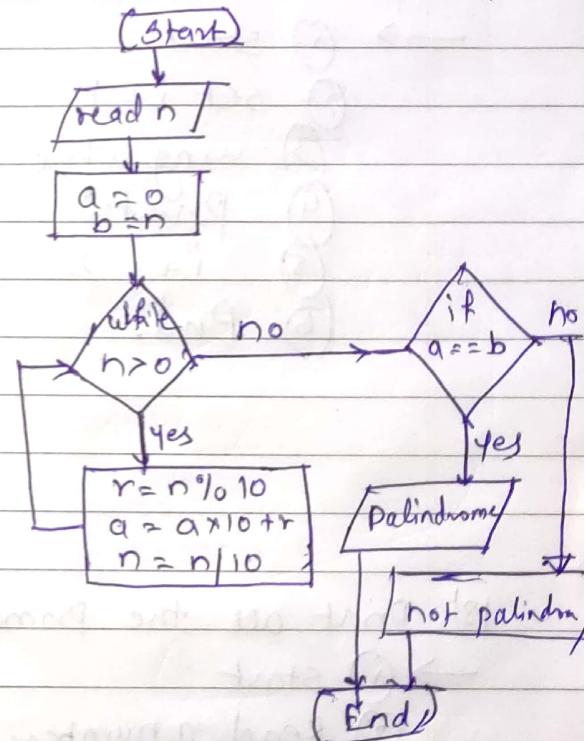
⑦ End.

16) LCM of two numbers using prime factor method.

- ① start
- ② Read two numbers $a \neq b$
- ③ Check if $a \% 2 == 0$ & $b \% 2 == 0$
- ④ Set Lcm = 1, yes, Lcm = Lcm $\times 2$
- ⑤ Lcm = Lcm \times factor
- ⑥ Continue this till the minimum number
- ⑦ And then multiply the remaining number with Lcm
- ⑧ Print answer Lcm
- ⑨ End.

17) Check whether the given number is palindrome or not!

- ① Start
- ② Read number n
- ③ Set $a=0$, $b=n$
- ④ While $n > 0$
 - Yes, set $r = n \% 10$
 - No, print a
- ⑤ Set $a = a \times 10 + r$
- ⑥ Set $n = n / 10$, step ④
- ⑦ Compare if $a == b$,
 - Yes, Palindrome
 - No, not palindrome
- ⑧ End.



18) Print all the prime factors of Given number

- ① start
- ② Read number n,
- ③ Start from $n/2$ increment by 1
- ④ for $i = 2$; $i \leq n/2$; $i++$
- ⑤ if $n \% i == 0$, check if i is prime
- ⑥ Print i ⑦ End

19) Print the even number series 2, 4, 6, 8, 10, ...

→ ① Start

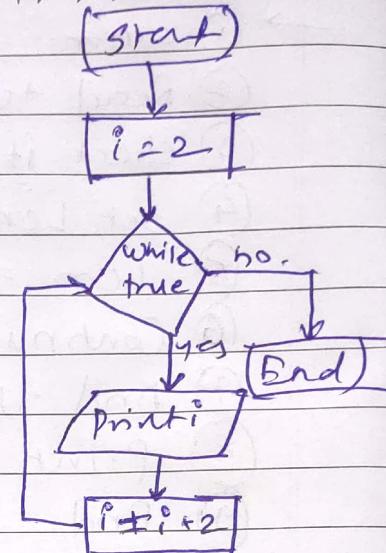
② set $i = 2$

③ using while loop (condition true)

④ print i

⑤ $i = i + 2$

⑥ End.



20) print the odd number series 1, 3, 5, 7, ...

→ ① Start

② set $i = 1$

③ using while loop (condition true)

④ print i

⑤ $i + = 2$

⑥ End.

