



# Assignment No: 1.

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Q. 1. Given no. is even or not.

Algorithm

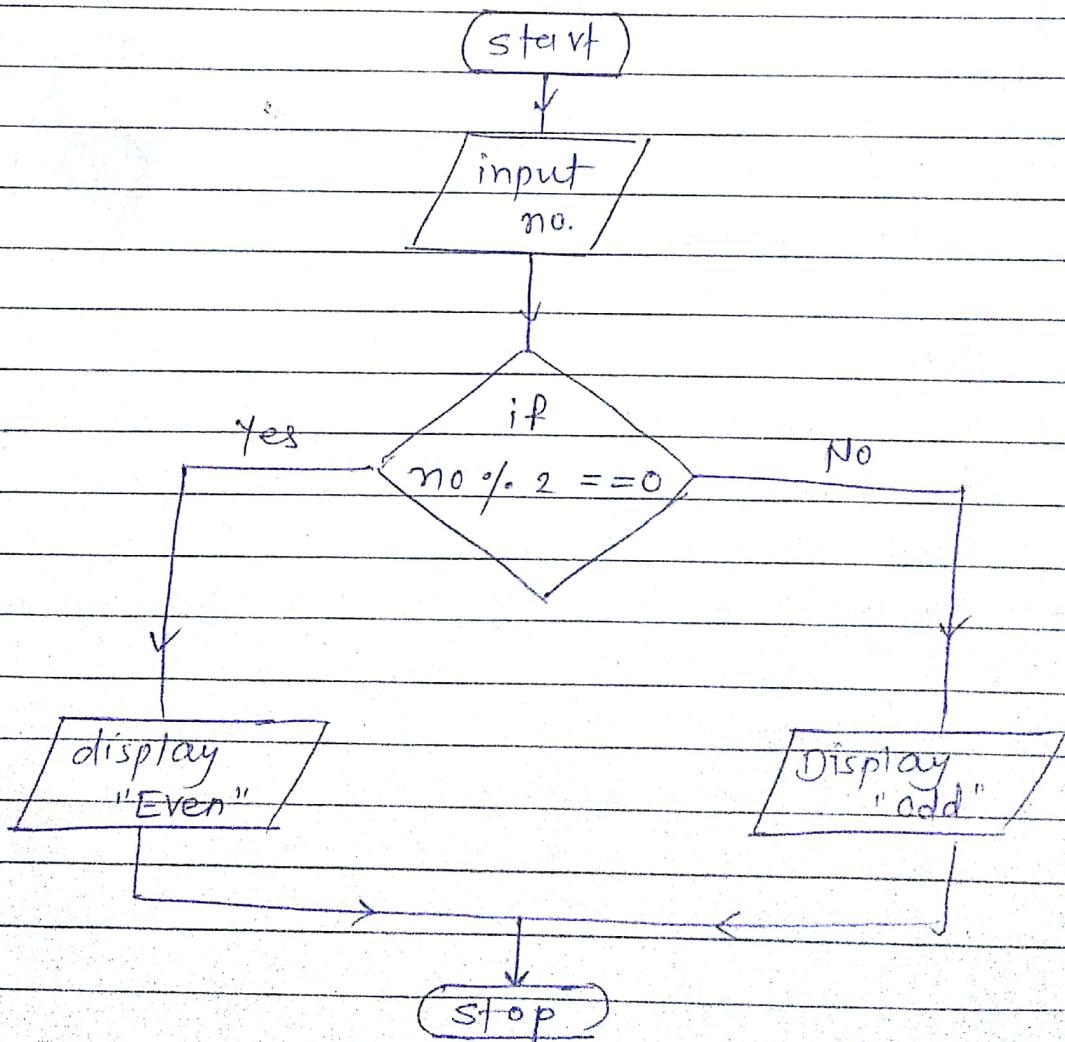
Step 1: start

Step 2: Read no.

Step 3: if no. is divisible by 2 get step 4 else step 5

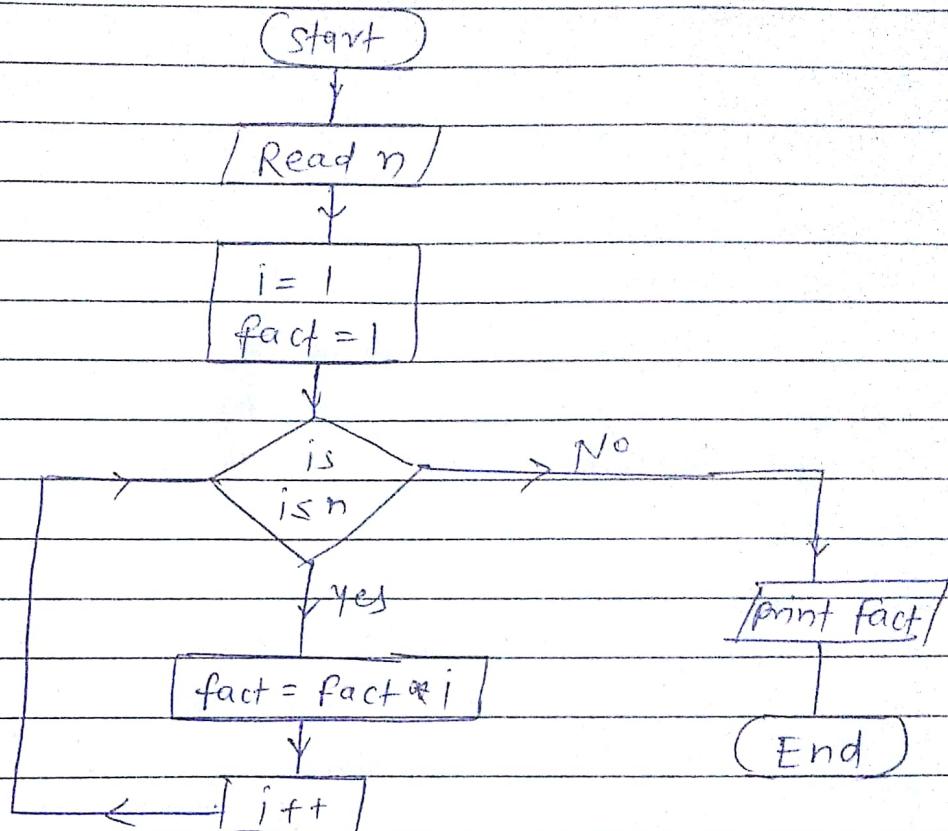
Step 4: Display "Even" & stop.

Step 5: Display "Odd" & stop.





Q.2 to find the factorial of given no.



step 1 : start

step 2 : read a number

step 3 : Initialize Variable

$i = 1$   $fact = 1$

Step 4: if  $i \leq n$  go to step 5 else go to step

Step 5: calculate  $fact = fact * i$

Step 6: increment the  $i$  by 1 ( $i++$ )

go to step 4

Step 7: print fact

Step 8 : stop



Q. 3) find factorial by using recursion:

### Algorithm

main program

Step 1: Start

Step 2: read n

Step 3: call subprogram

f = fact(n)

Step 4: print f value

Step 5: stop.

### Subprogram

Step 1: initialize the fact

Step 2: if  $n=0$  or  $n=1$

return 1 to main program

if not goto step 3

Step 3: return  $n * \text{fact}(n-1)$

to main program.

### main program

(Start)

| Read n |

call subprogram  
 $f = \text{fact}(n)$

| print f |

(stop)

### subprogram

| Fact |

| If  $n=0$  ||

$n=1$

false

Yes

true

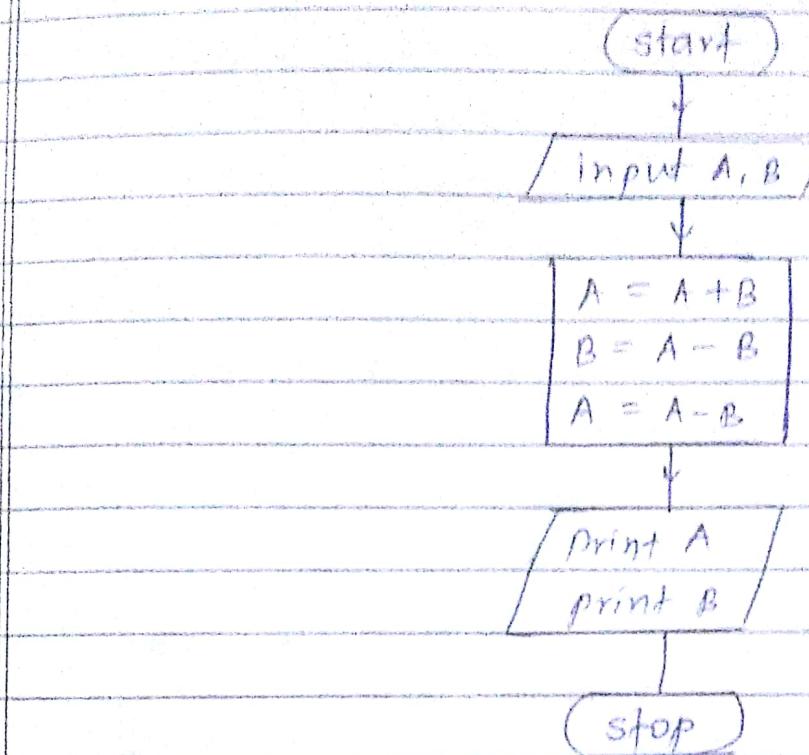
Return  
 $n * \text{fact}(n-1)$

return n  
to main  
program



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Q.4) swap 2 no.s without using third variable approach



Step 1: start

Step 2: Enter A & B

Step 3: print A & B

Step 4: A = A + B

Step 5: B = A - B

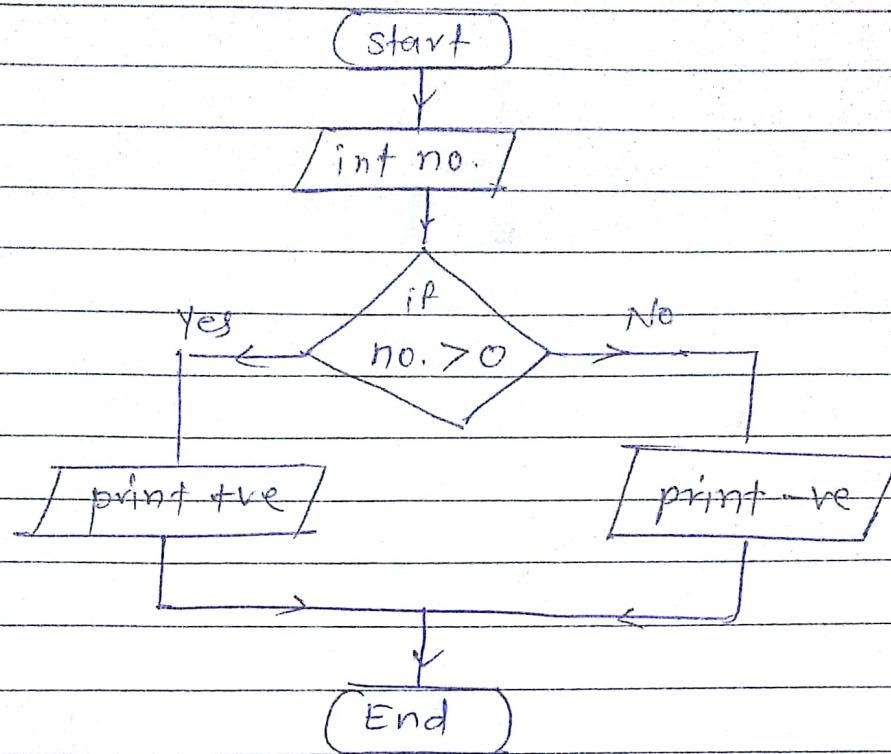
Step 6: A = A - B

Step 7: print A, B

Step 8: End



Q.5) Check given no. is +ve or -ve.



Step 1: start

Step 2: accept number

Step 3: if no. > 0, go to step 4 else go to step 5.

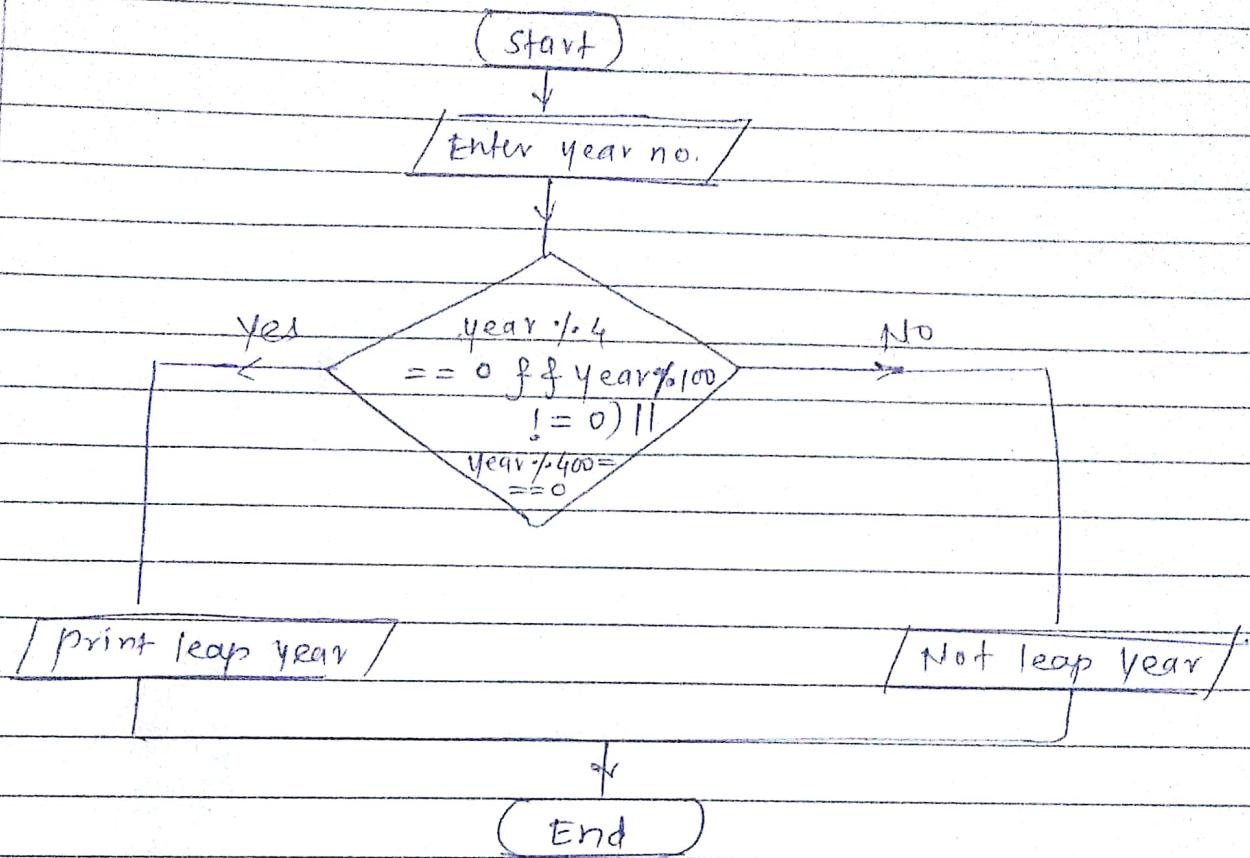
Step 4: print " +ve no."

Step 5: print " -ve no."

Step 6: End.



Q. 6) Check given year is leap or not.



Step 1: Start

Step 2: Enter Year number

Step 3: if ( $\text{year} \% 4 == 0$  and  $\text{year} \% 100 \neq 0$ ) or  $\text{year} \% 400 == 0$  go to Step 4 else go to Step 5.

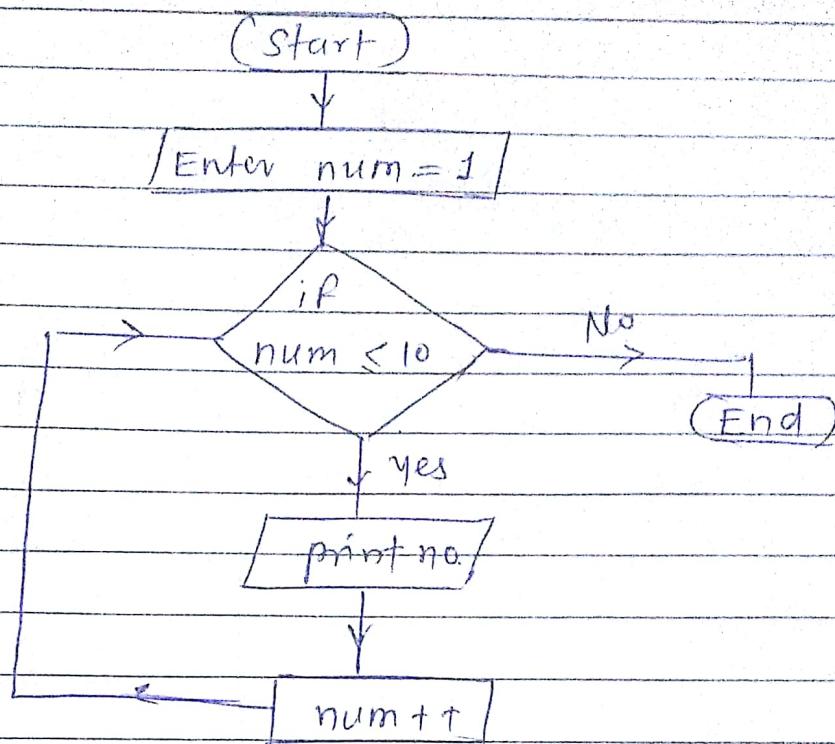
Step 4: print leap year

Step 5: print Non-leap year

Step 6: stop



Q. 7) to print from 1 to 10 without loop.



step 1: start #

step 2: input num = 1.

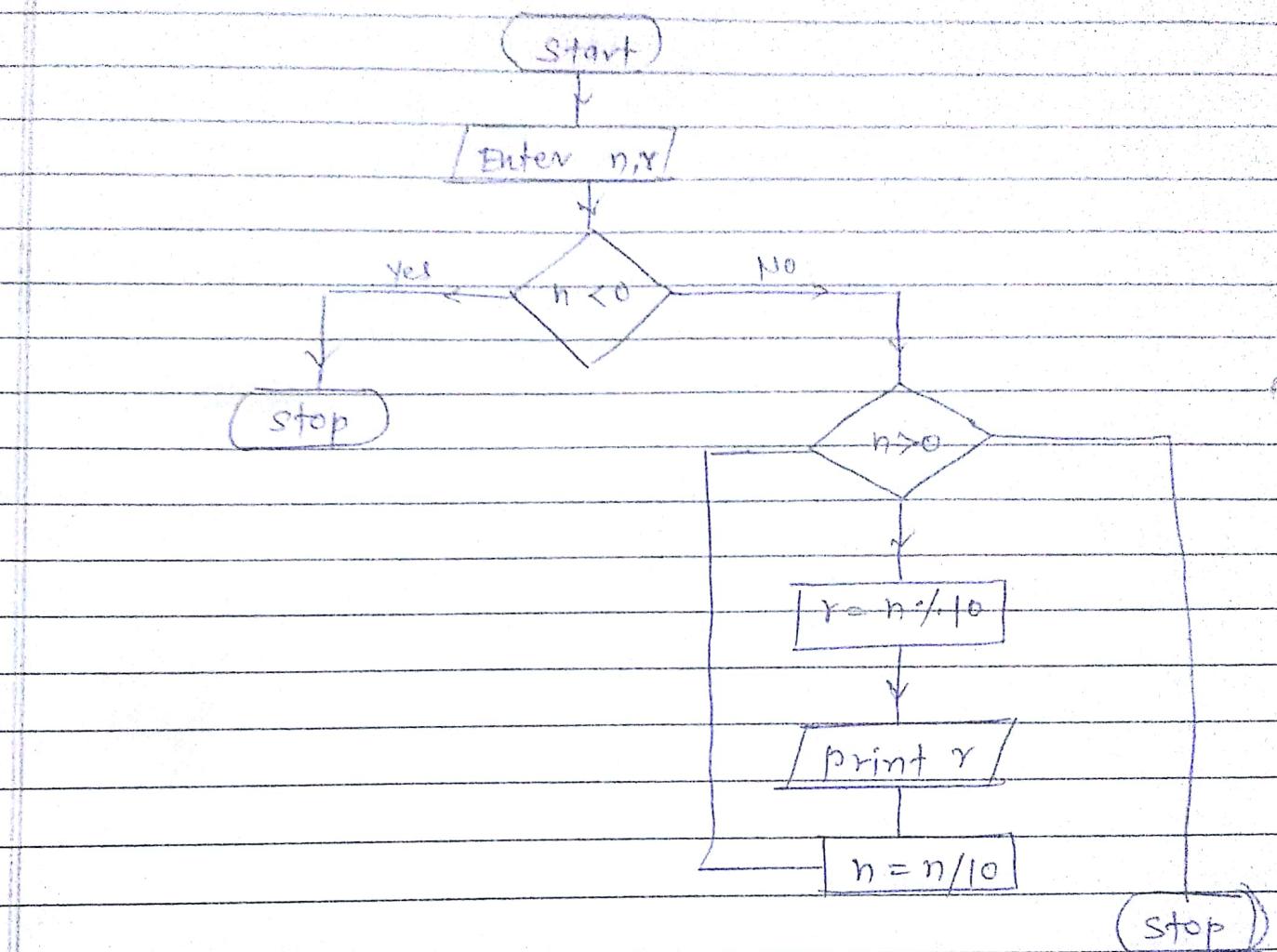
step 3: check num  $\leq$  10 if yes print num.  
and increase num by 1.

step 4: else print end

step 5: end.



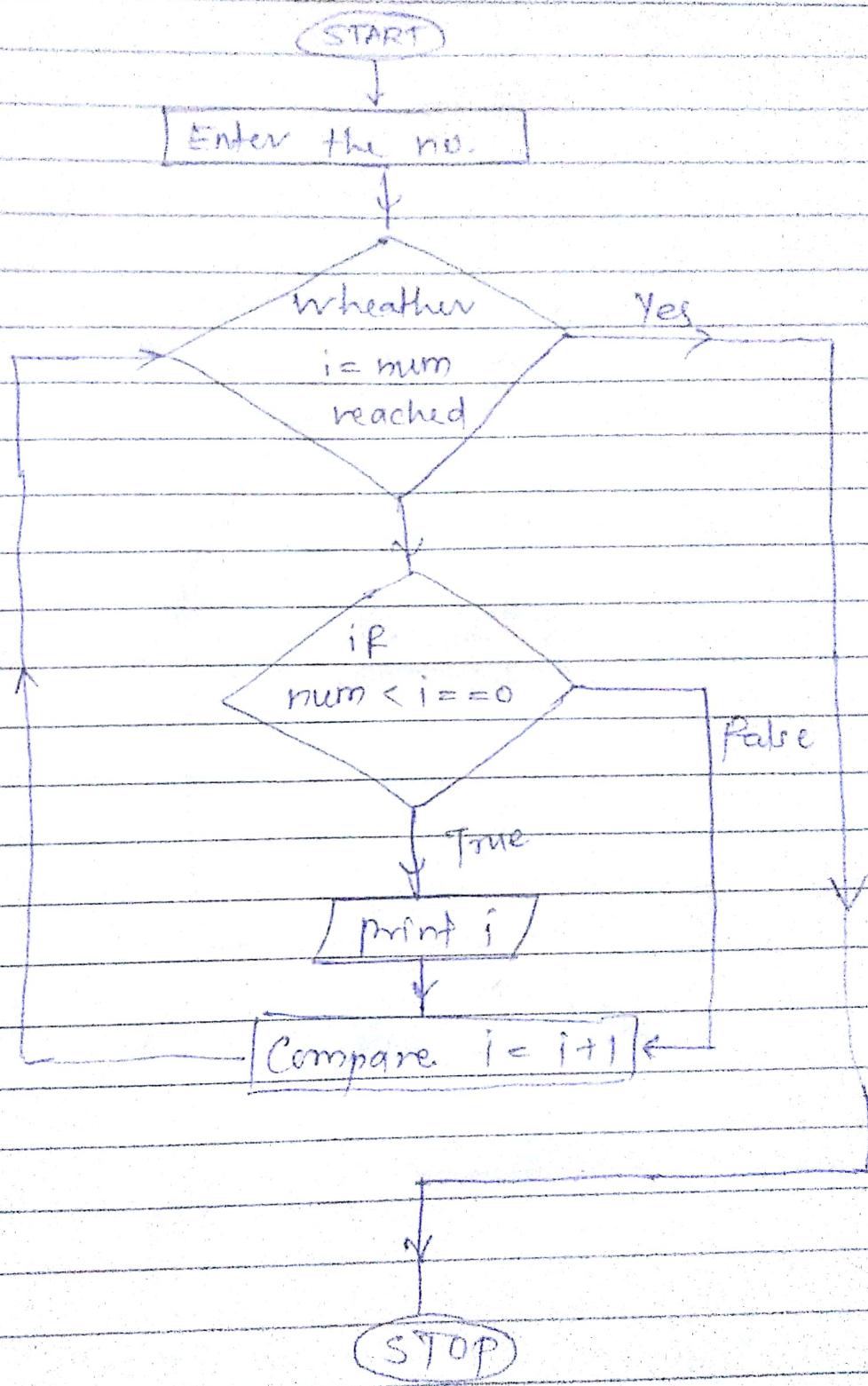
Q. 8) program to print the digits of a given number.





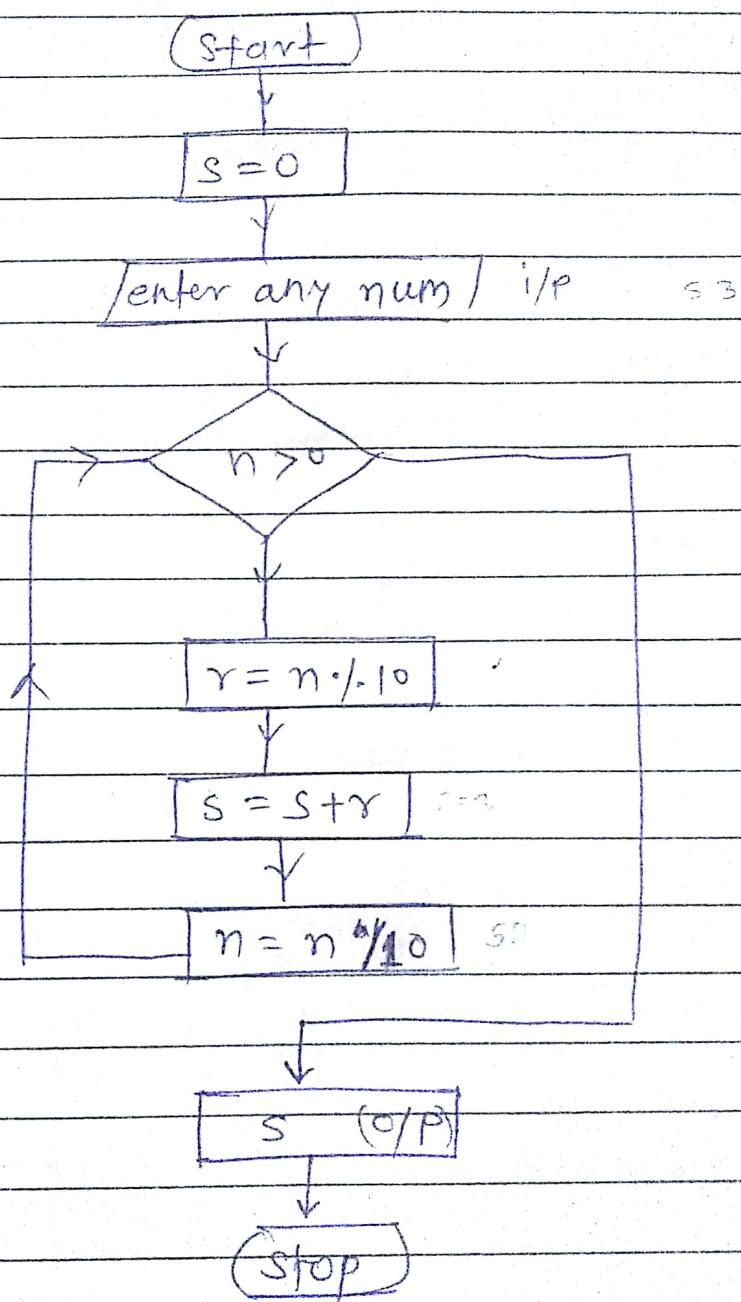
Q. 9)

Program to print all the factors of given no.



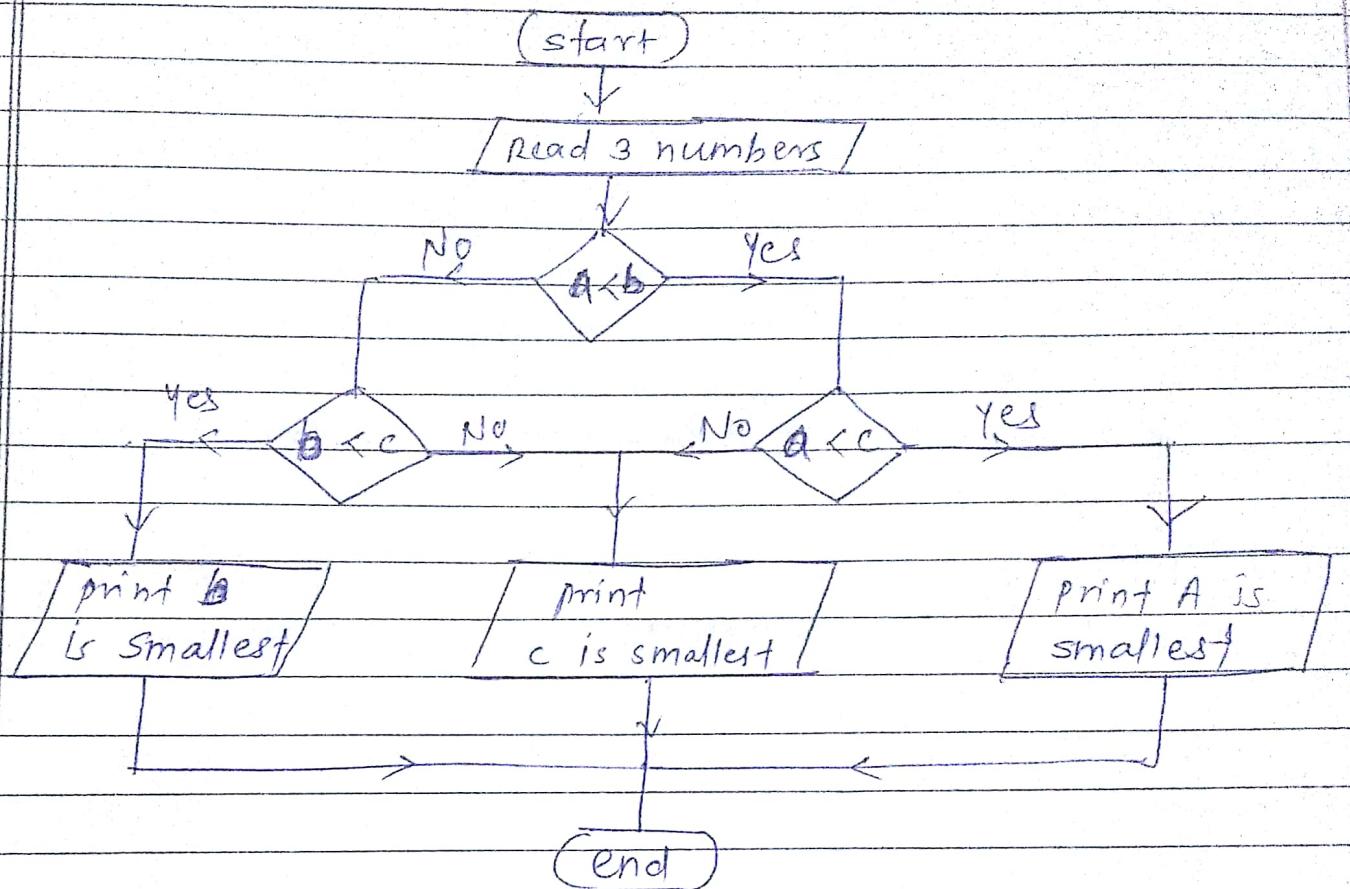


Q.10) program to find sum of digits of a given no.





Q.11. write program to find smallest of 3 numbers (a,b,c).



step 1: start

step 2: read 3 numbers

step 3: if  $a < b$  and  $a < c$  then "print a is smallest"

if  $b < a$  and  $b < c$  then "print b is smallest"

if  $c < a$  and  $c < b$  then "print c is smallest"

step 4: End.



(Q. 13) to find reverse of a given number.

Step 1: start

Step 2: declare n, remainder, reverse = 0.

Step 3: Read n

Step 4: Use while loop ( $n \neq 0$ )

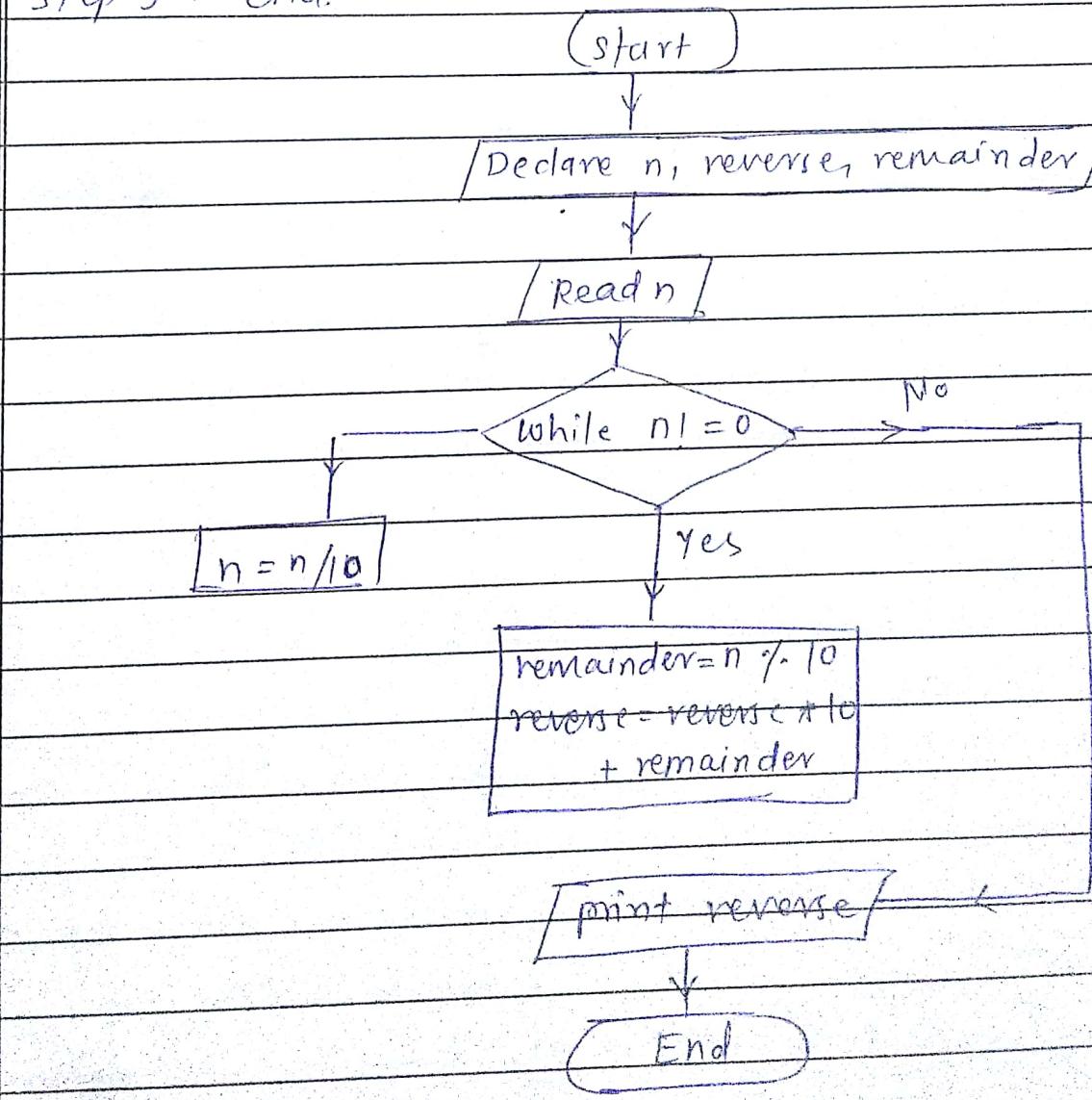
Step 5: get remainder by input number mod 10

Step 6: multiply by 10 to reverse & add to remainder

Step 7: divide the number by 10.

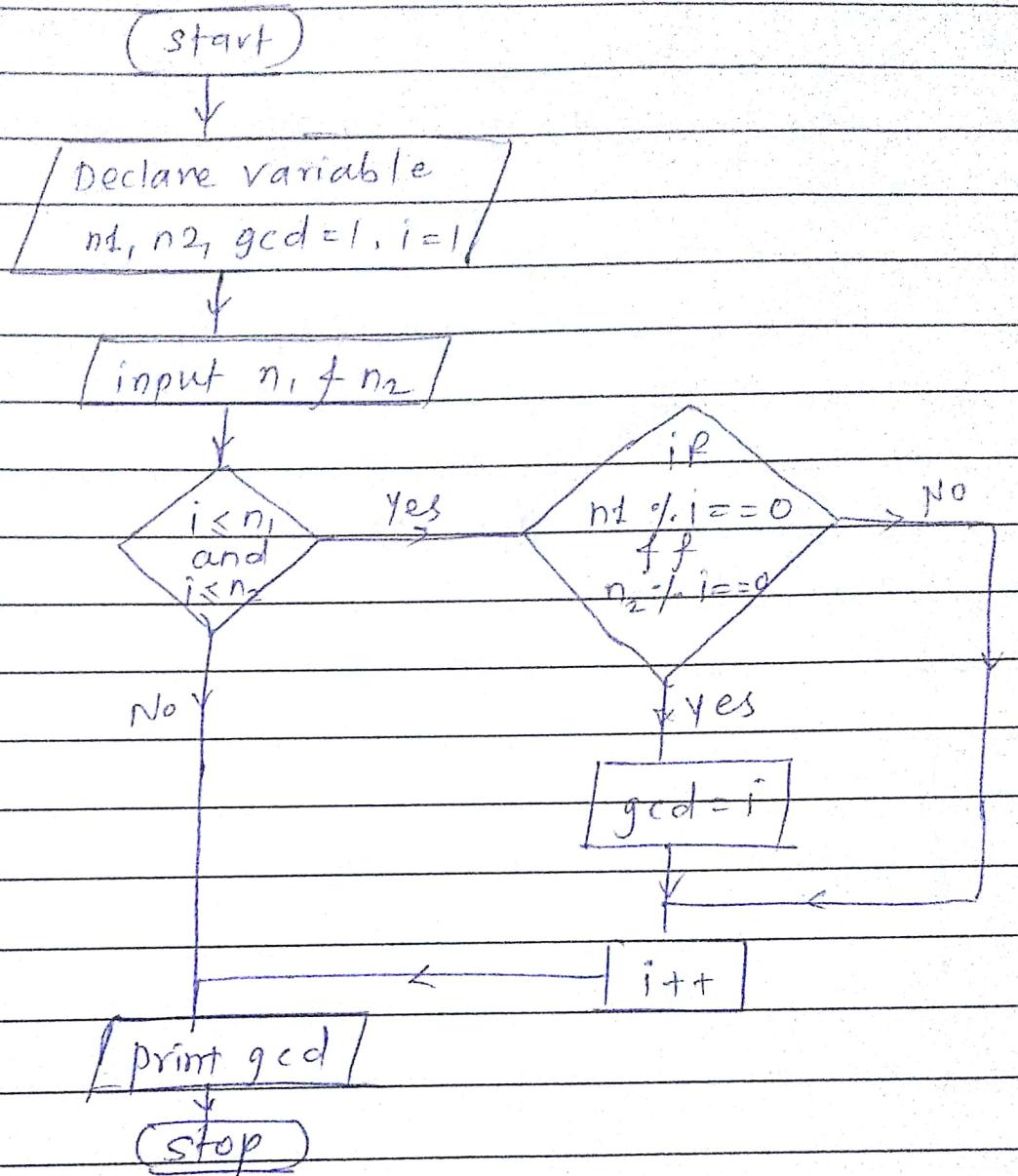
Step 8: print the number

Step 9: end.





Q.14) to find GCD of two numbers.



Step 1: start

Step 2: Declare variable  $n_1, n_2, gcd=1, i=1;$

Step 3: Input  $n_1 \& n_2;$

Step 4: Repeat until  $i \leq n_1 \& i \leq n_2$

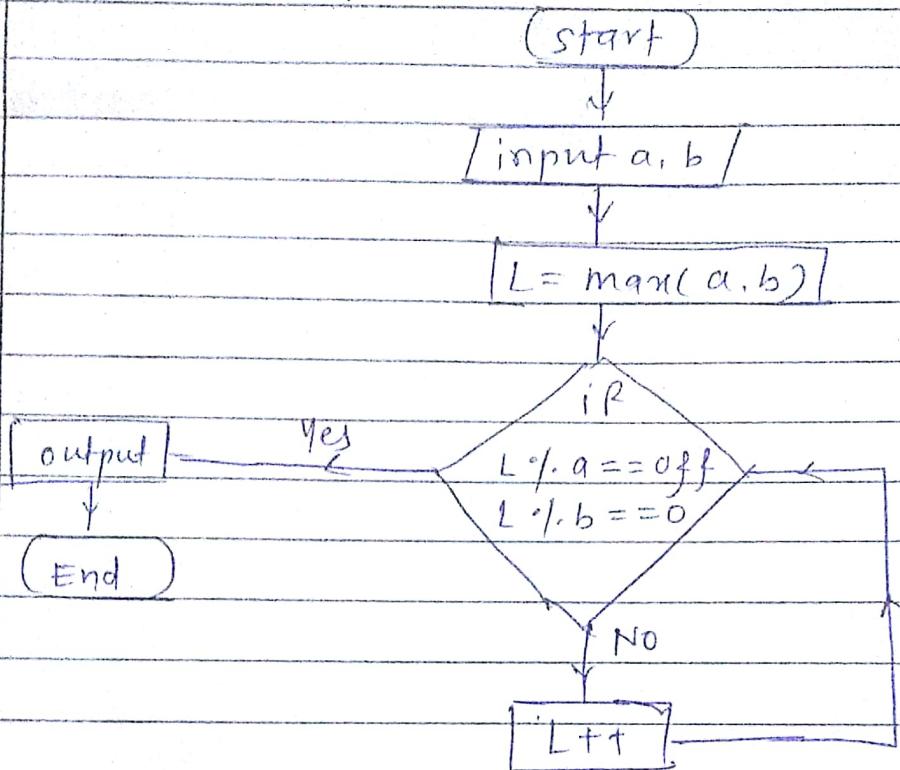
Step 5: if  $n_1 \% i == 0 \& n_2 \% i == 0$ ;  $gcd = i$

Step 6: print gcd

Step 7: stop.



Q. 15) To LCM of two given numbers.



Step 1: start

Step 2: input a & b

Step 3: find max value no. betw a & b (L)

Step 4: check condition  $L \% a == 0 \& L \% b == 0$

4.1: if yes get output

4.2: if no go to step 5.

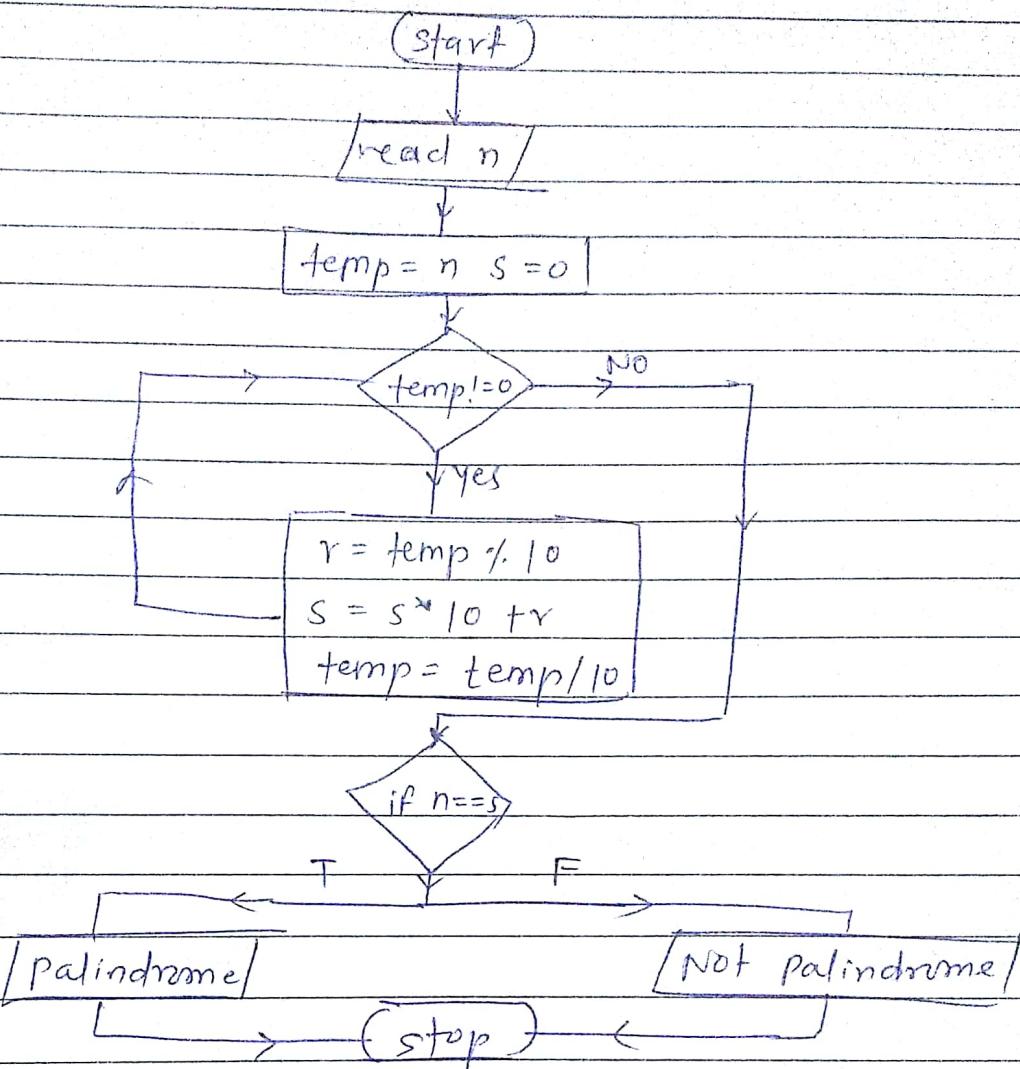
Step 5 = L++

Step 6: stop.



Q. 17)

Check whether the given no. is palindrome or not.



Step 1: start

Step 2: read n

Step 3: Initialize  $\text{temp} = 0$ ,  $s = 0$ ;Step 4 : Using while loop ( $\text{temp} \neq 0$ )

$$r = \text{temp} \% 10$$

$$s = s * 10 + r$$

$$\text{temp} = \text{temp} / 10$$

end while

Step 5: if ( $s == n$ )

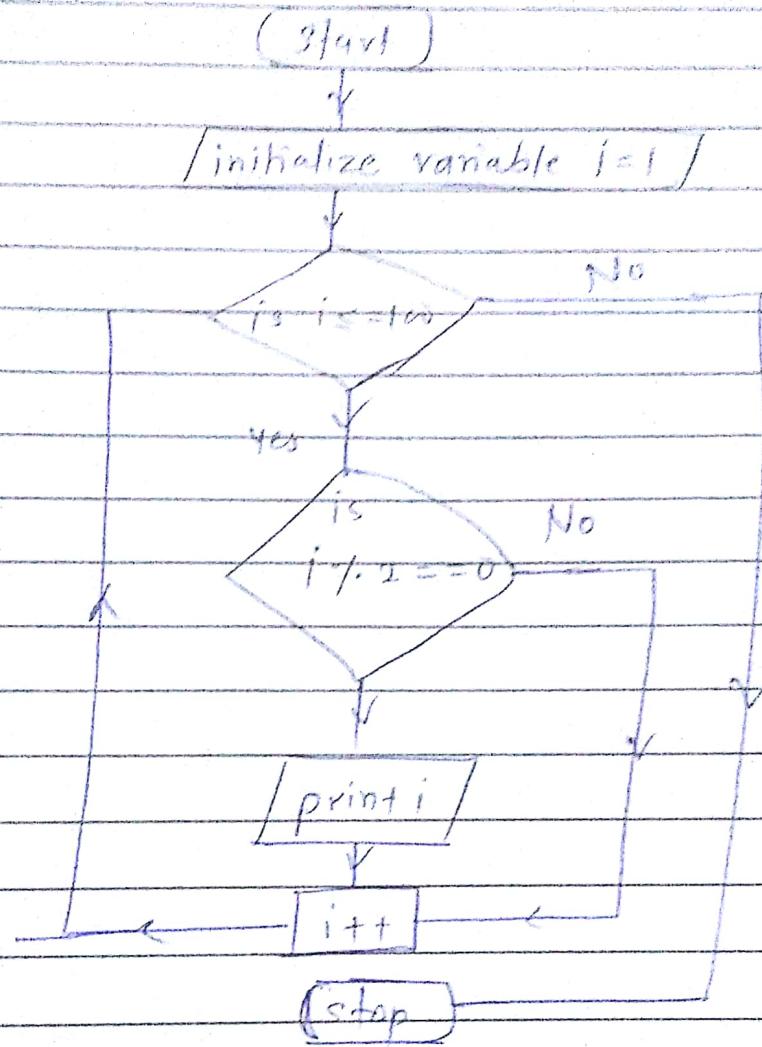
display "palindrome" else display "not palindrome"

Step 6 : stop.

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Q. 19) To print following series even number series 2, 4, 6, 8, 10, 12, ...



Step 1: start

step 2: initialize the variable i to 1

step 3: use while loop  $i \leq 100$ ;

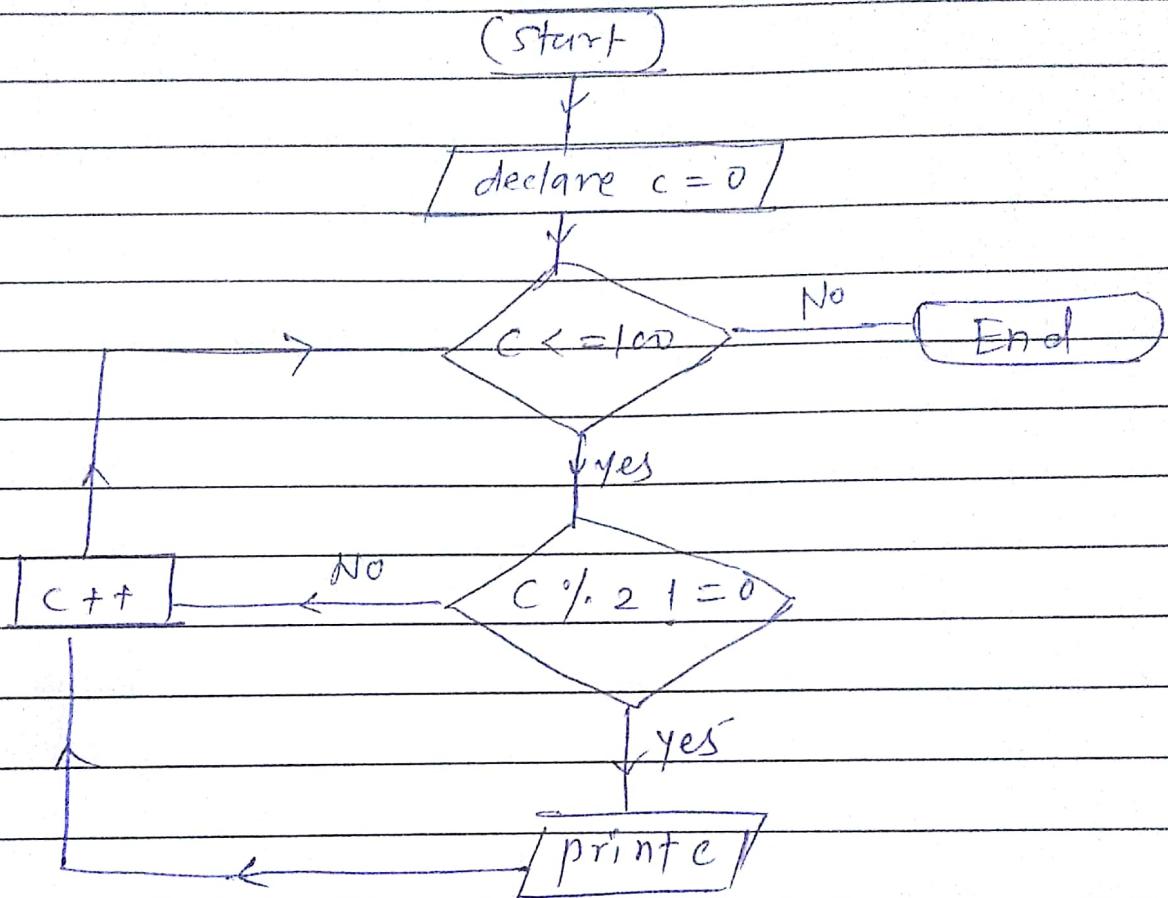
step 4: if  $i \% 2 == 0$

step 5: print the number

step 6: increment value of i

Step 7: stop

Q. 20) To print the following series odd number series 1 3 5 7 9



Step 1 : start

Step 2 : declare  $c = 0$

Step 3 : Repeat 4.1 to 4.3 while ( $c \leq 100$ )

Step 4.1 : if ( $c \% 2 \neq 0$ )

Step 4.2 : then print c

Step 4.3 :  $c = c + 1$ .

Step 5 : stop.