

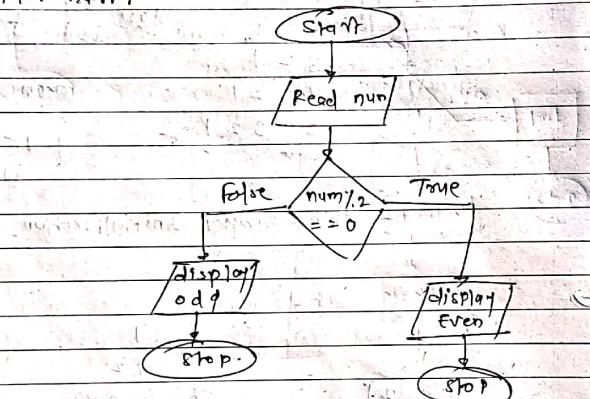
### Assignment 1.

1) check if the given number is EVEN or ODD.

→ Algorithm:

- 1) Start.
- 2) Read Num.
- 3) If Num. divisible by 2, go to step 4.  
else step 5.
- 4) Display "Even" & Stop.
- 5) Display "ODD" & Stop.
- 6) Stop.

### Flowchart

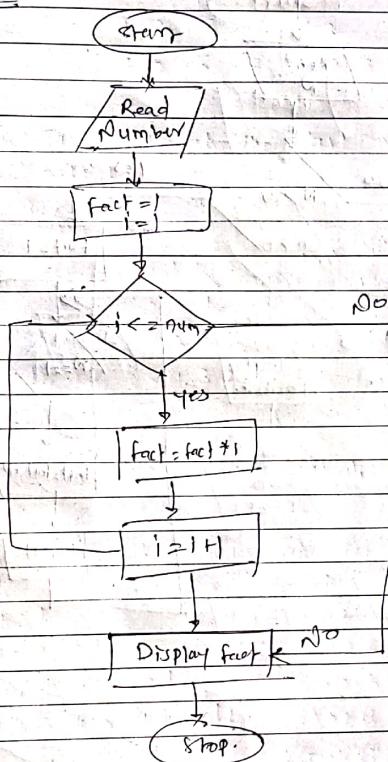


→ To find factorial of a Given No!

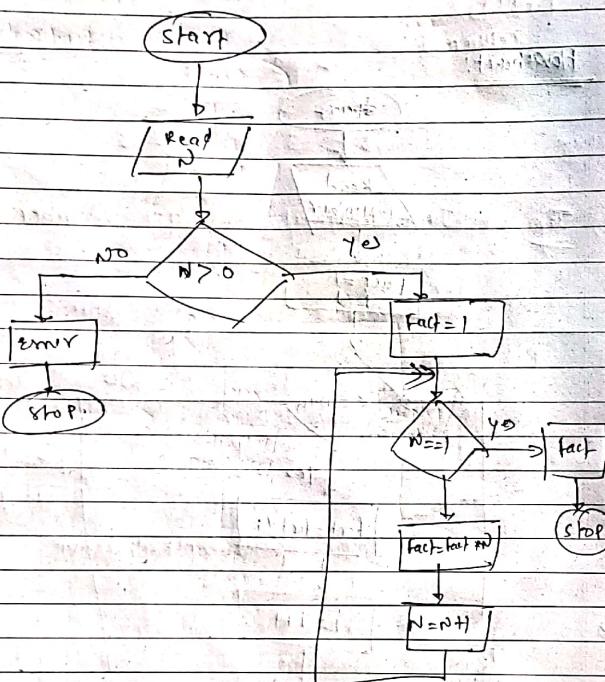
- 1) Start.
- 2) Declare num, fact, i
- 3) Initialise fact=1 & i=1
- 4) Read num

- 5) IF  $i \leq num$  go to step 6. else go to step 8
- 6) else calculate fact = fact \* i
- 7) i++ and go to step 5
- 8) print fact
- 9) stop.

### Flowchart

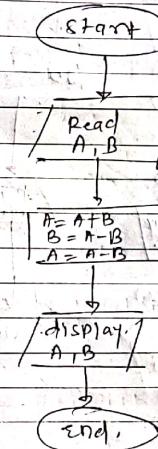


3) Find Factorial of a Number Using Recursion!



4) Swap two Numbers without using the third Variable Approach!

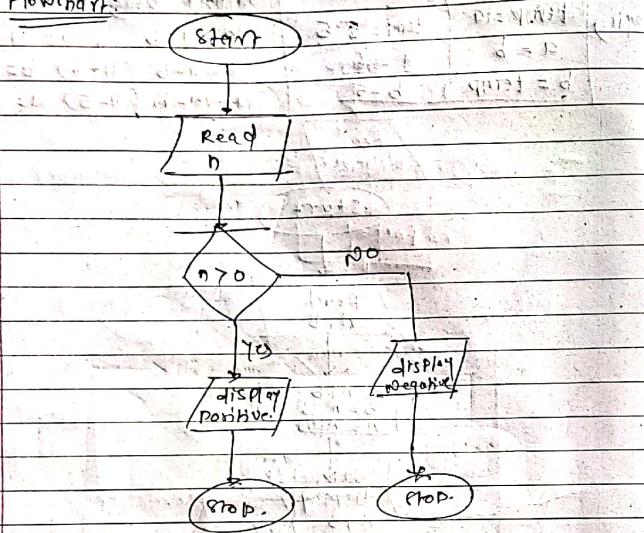
$a = 5$	$b = 6$	$a = 6$
		$b = 5$
Before swap		After swap
$\underline{\text{temp} = a}$	$\underline{\text{temp} \neq 5}$	without using 3rd variable
$\underline{a = b}$	$\underline{a = 6}$	$a = a + b$ , $a = 11$
$\underline{b = temp}$	$\underline{b = 5}$	$b = a - b$ ( $11 - 6$ ) $b = 5$ ✓
		$a = a - b$ ( $11 - 5$ ) $a = 6$ ✓



5) Check whether the given number is positive or negative.

Logic  $\rightarrow$   $n > 0 \rightarrow$  Positive  
 $n < 0 \rightarrow$  Negative.

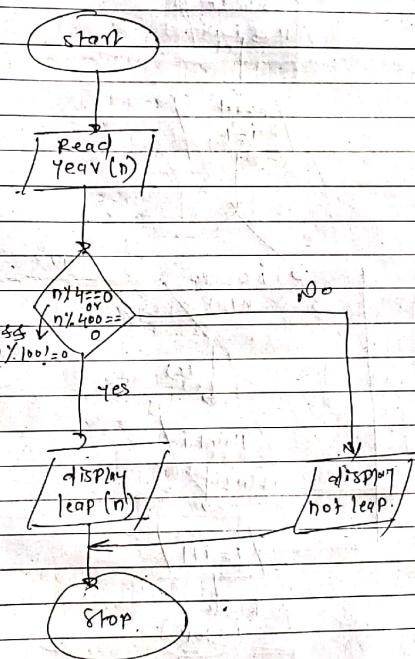
Flowchart:



6) Write a program to find whether a given No. is leap year or Not.

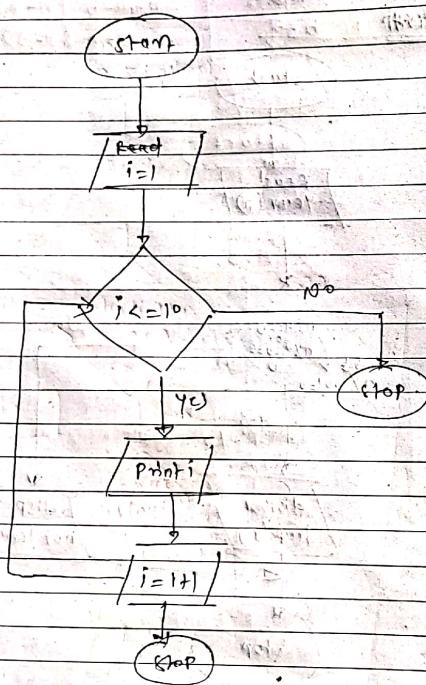
Logic  $\rightarrow$  leap year is  $\frac{n}{4}$   
 but 100, 200, 300 is not leap yr  
 $400$  is leap year  
 so leap year is multiple of  $4 \& 400$ .

Flowchart:



7) Write a program to print from 1 to 10 without using loop.

→ logic :  $i = 1$     if( $i <= 10$ ) :  
 $i \leq 10$      $i = i + 1$      $i++$



8) Write a program to print digit of a given number

$$153 \% 10 \rightarrow 3 \quad R$$

$$\text{quotient} \Rightarrow 15$$

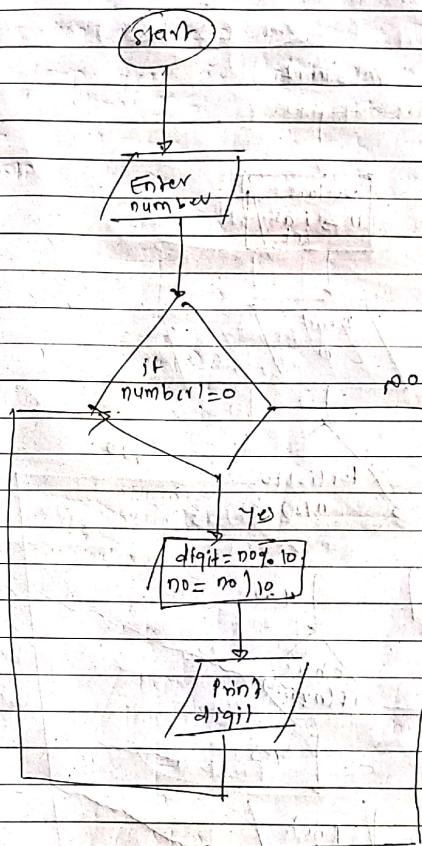
$$n = 15$$

$$15 \% 10 \rightarrow 5 \quad R$$

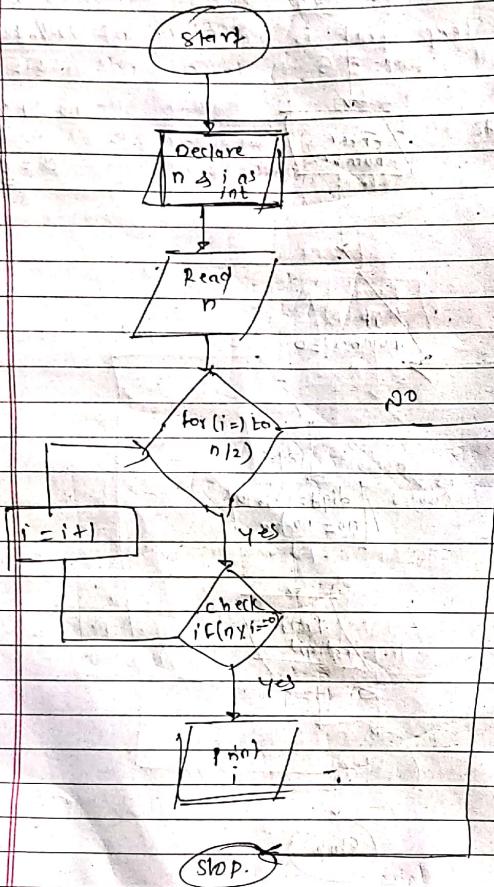
$$n = 1$$

$$n = 1 \% 10 \rightarrow 1 \quad R$$

$$n = 0$$

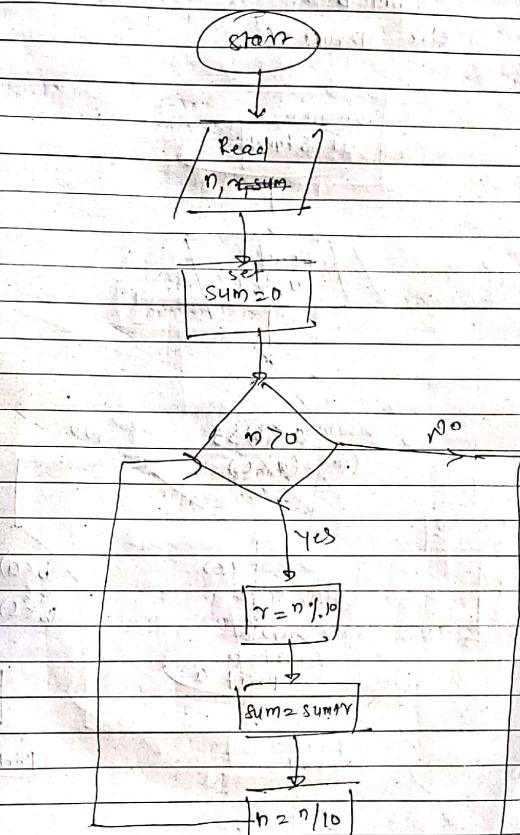


9) write a program to print all the factors of a given number.



10) write a program to find sum of digit of Given Number

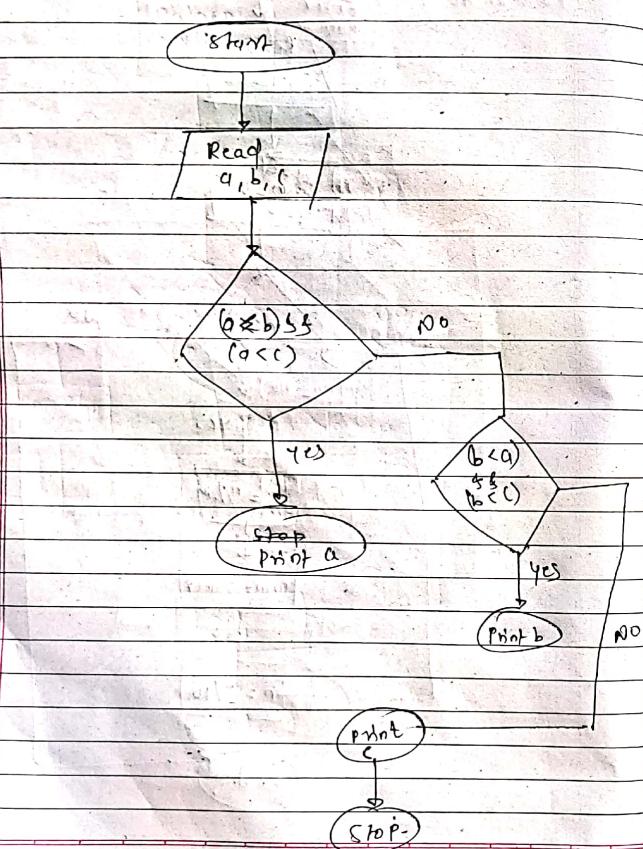
$$\begin{array}{r} \overline{1234} \\ \overline{1230} \\ \hline r \rightarrow 4 \end{array} \Rightarrow 1+2+3+4 = 10$$



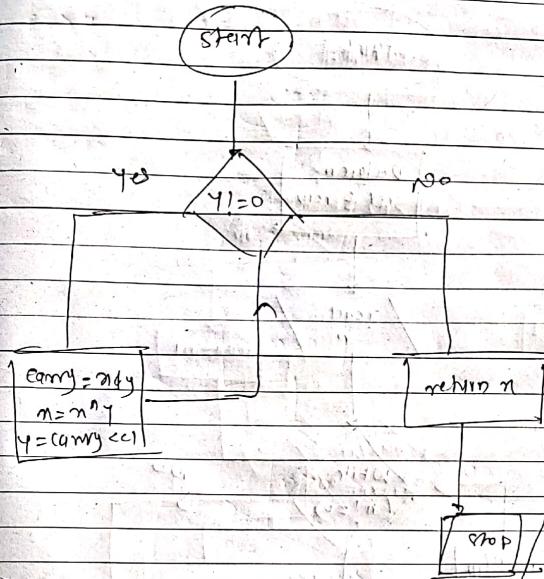
11) write a program to find smallest of three numbers (a, b, c).

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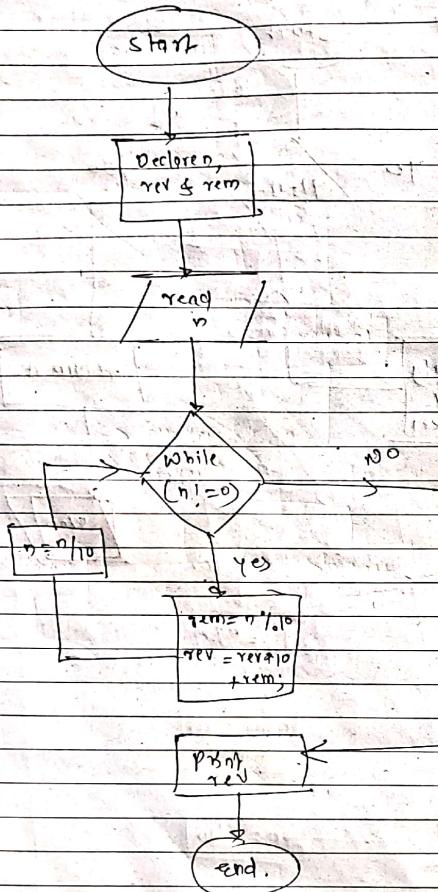
→ if (a <= b && a <= c)
    Print a
else if (b <= a && b <= c)
    Print b
else print c
  
```



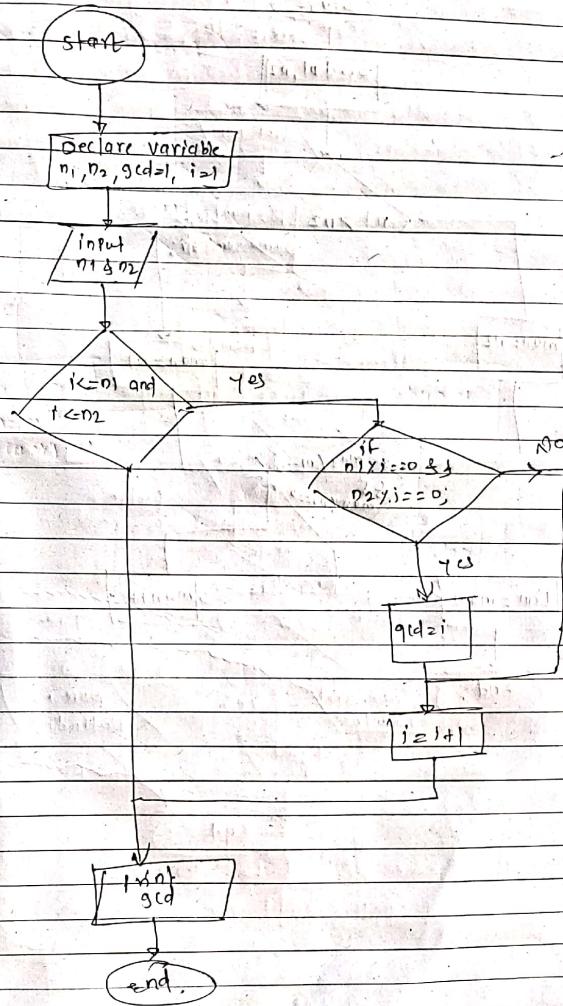
12) write a flowchart to add two no's without using arithmetic operators in java.



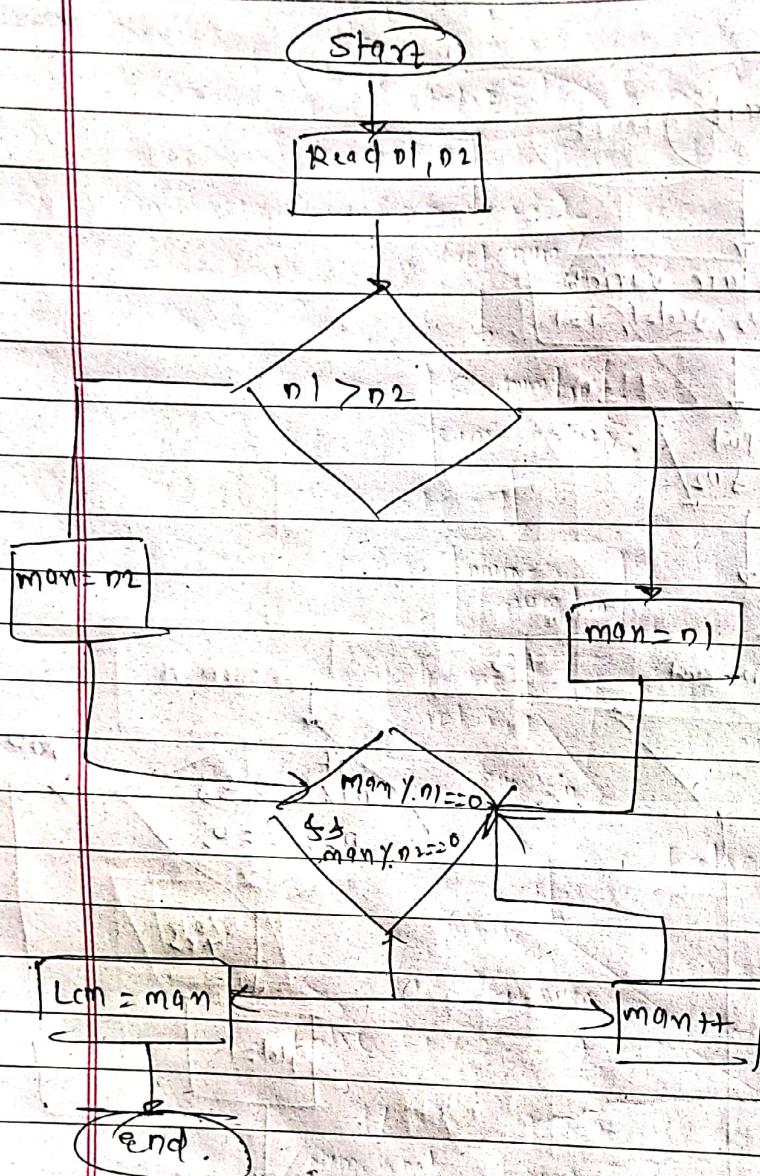
13) Write a program to reverse a given number.



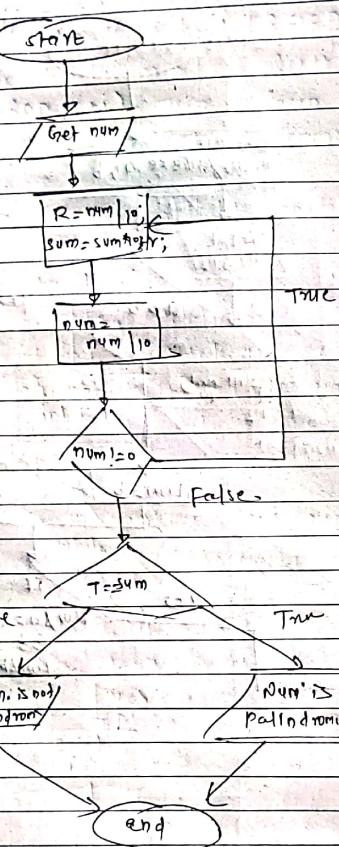
14) Write a program to find GCD of two given numbers.



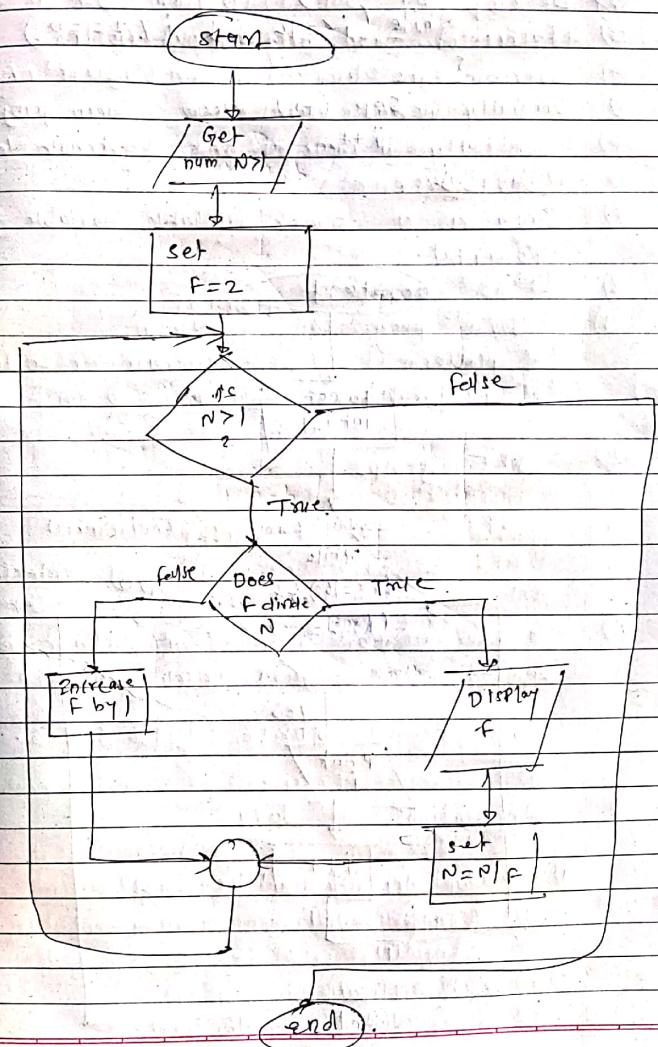
15) Write a prog. to find LCM of two given numbers.



17) Check whether a given No. is palindrome or Not.



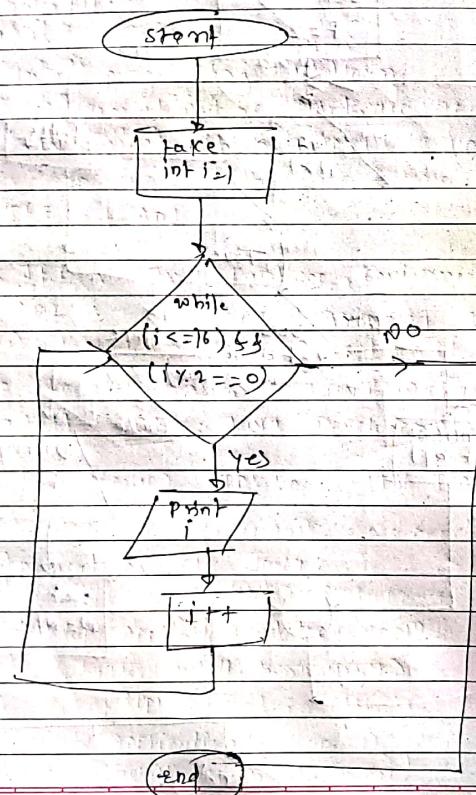
18) Write a program to print all the prime factors of a given Number.



19) Write a prog. to print the Even No. series.

$$2, 4, 6, 8, 10, 12, 14, 16 \dots$$

```
int i=1;
while (i<=16 && i%2==0)
{
    cout(i);
    i++;
}
```



20) Write a prog. to print the odd No. series.

$$1, 3, 5, 7, 9, 11, 13 \dots$$

```
int i=1;
while (i<=13 && i%2!=0)
{
    cout(i);
    i++;
}
```

