Assignment - 1

Q1 Check if the given no is Even or odd

```
        ( START )
            |
   /  Input : Number  /
            |
        < If
          Number%2      --- No --->
          == 0 >                    |
            |                       |
          Yes                       |
            |                       |
     / Print : Even /       / Print : Odd /
            |                       |
            v                       |
        ( STOP ) <------------------
```
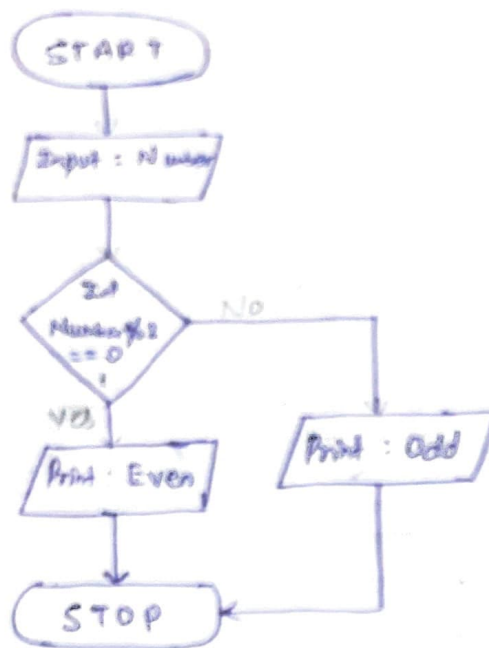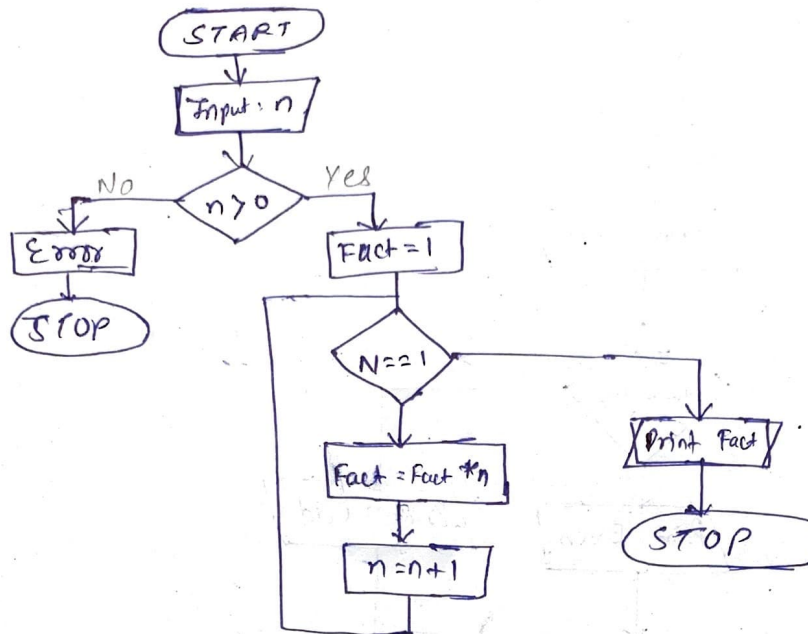
Q2 Write a java program to find the factorial of a given number.

```
        ( START )
            |
     / Input = n /
            |
     [ i=1, fact=1 ]
            |
   ----> < i <= n >  --- No --->
   |        |                    |
   |      yes                    |
   |        |                    |
   |  [ fact = fact * i ]        |
   |        |                    |
   |  [ i = i+1 ]                |
   |_____|                    |
            |                    |
     / Print : fact / <----------
            |
        ( STOP )
```
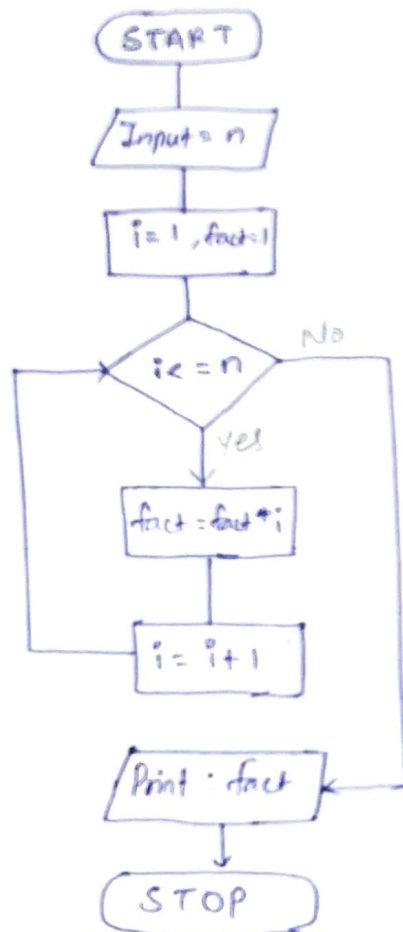
Q3) Find the factorial of a number using Recursion.

START

Input: n

n > 0

No → Error → STOP

Yes → Fact = 1

N == 1

Fact = Fact * n

n = n + 1

Print Fact

STOP

Q.4) Swap two number without using the third variable approach.

START

Input: a, b

a = a + b
b = a - b
a = a - b

Print: a, b

STOP
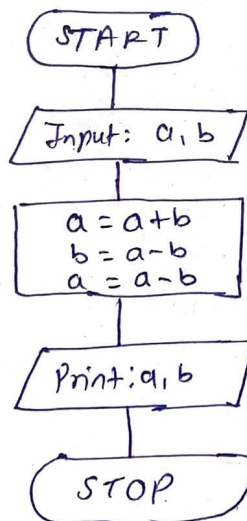
Q. 5) How to check whether the given no is positive or negative in java?


```
START
  ↓
Input = n
  ↓
n > 0 ──NO──→ Print: Negative
  │ yes                │
  ↓                    │
Print: Positive        │
  ↓                    │
STOP ←─────────────────┘
```
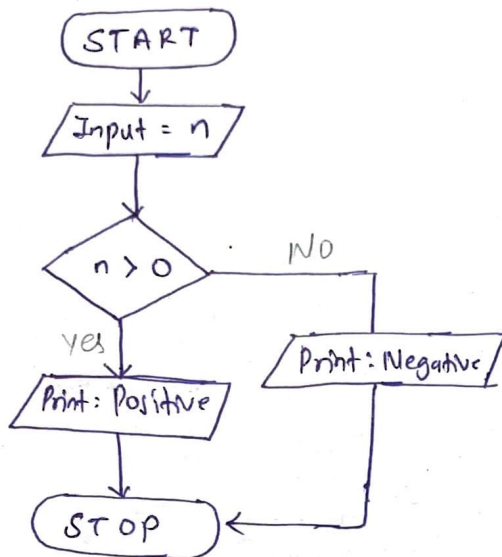
Q. 6) Write a java program to find whether a given nu. is leap year or not.


```
START
  ↓
Input = n
  ↓
(n%4==0
 && n%100!=0)   ──NO──→  Print:
OR n%400==0                Non-Leap Yr
  │ yes                      │
  ↓                          │
Print:                       │
Leap Year                    │
  ↓                          │
STOP ←───────────────────────┘
```
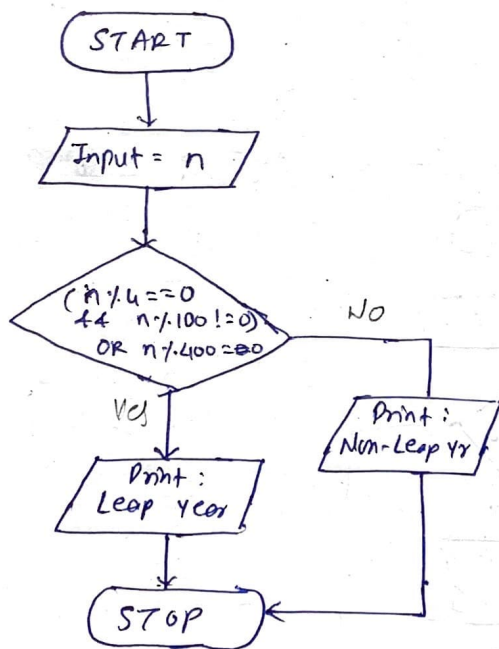
Q.7) Write a java program to print 1 to 10 without using Loop

```
          START
            ↓
        Input i = 1
            ↓
      ✗ Print i
            ↓
        i = i+1
            ↓
   yes
            i ✗ = 10
            ↓
          NO
          STOP
```
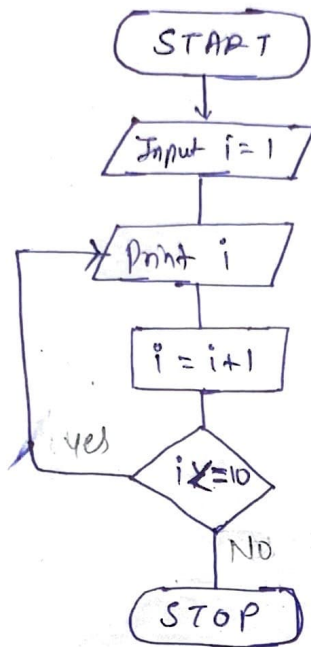
Q.8) Write a java program to print the digit of a given number.

```
          START
            ↓
        Input : i
            ↓
          i != 0
            ↓
        b = i % 10
        i = i / 10
            ↓
        Print b
            ↓
          STOP
```
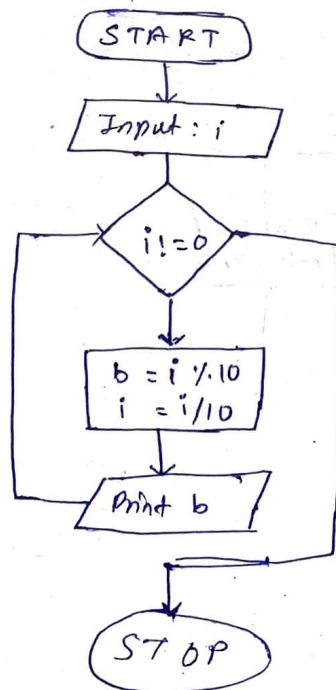
Q.9) Write a Java program to print all the factors of the given number.

START

input n'f i

read n

for
$(i=1$ to
$i<=n)$

$i = i+1$

if $(n\%i==0)$

Print i

STOP
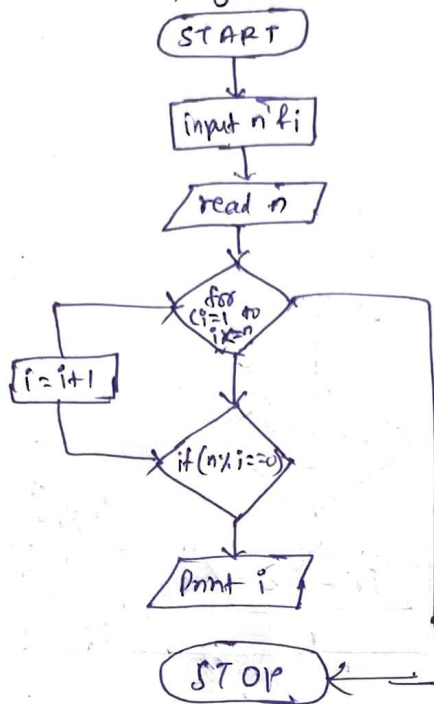
Q.10) Write a java program to find the sum of the digits of a given number.

START

Input: a, b, sum=0

Input a

$b = a\%10$
sum = sum+b

Yes

$a = a/10$

$a > 0$

No

Print: sum

STOP
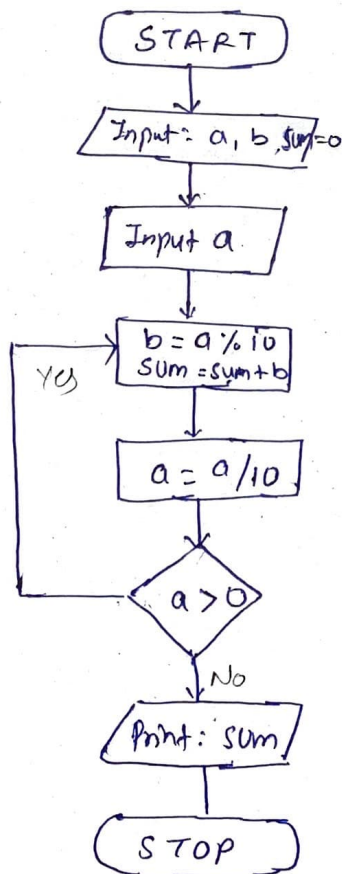
Q.11) Write a Java program to find the smallest of 3 number (a,b,c)

```
                    START

                 Input: a, b, c

                    if
                 a < b && ──────No──────┐
                 a < c                  │
                                        │
         yes                           if
                                    b < a && ──────No──────┐
        Print: a                    b < c                  │
                                                           │
                                   yes              Print: c
                                 Print: b
         STOP ◄─────────────────────┘
```
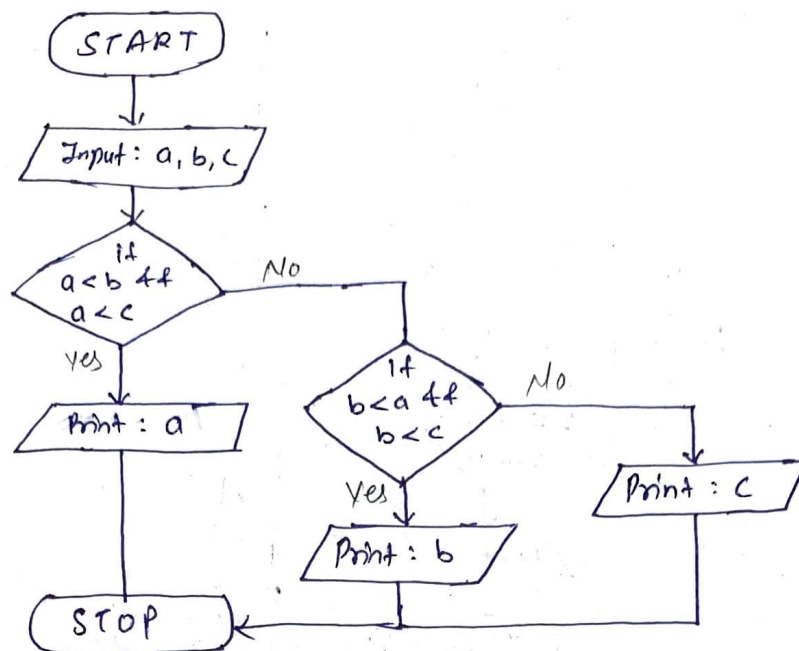
Q.13) Write a java program to reverse a given number.

```
                    START

                  Input: n

                   rev = 0

                    if
                   n > 0 ──────No──────┐
                                       │
                   yes                 │
          ┌──► rev = (rev * 10) +      │
          │        (n % 10)            │
          │                            │
          │      n = n / 10 ───────────┤
          └──────────────              │
                   ◄───────────────────┘
                 Print: rev

                   STOP
```
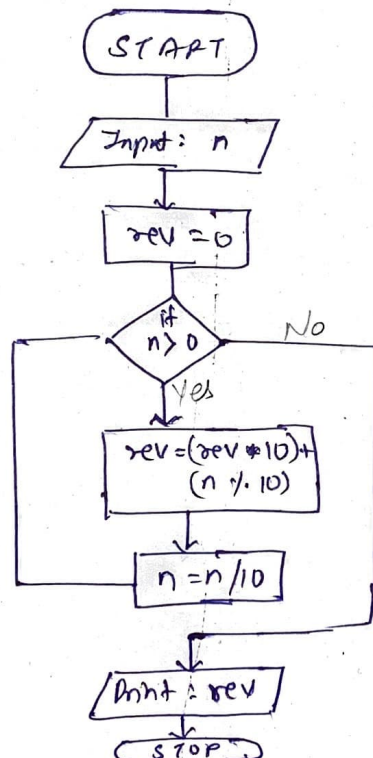
Q.14) Write a java program to find the GCD of two given no.

Q.19) To print the following series EVEN number Series 2 4 6 8 10 12 14 16

```
                    ┌──────────┐
                    │  START   │
                    └──────────┘
                         │
                         ▼
                   ╱─────────────╱
                  ╱ Input: a = 2 ╱
                 ╱─────────────╱
                         │
                         ▼
          ┌───►   ╱───────────╱
          │      ╱ Print: a   ╱
          │     ╱───────────╱
          │            │
          │            ▼
          │     ┌─────────────┐
          └─────│  a = a + 2  │
                └─────────────┘
```
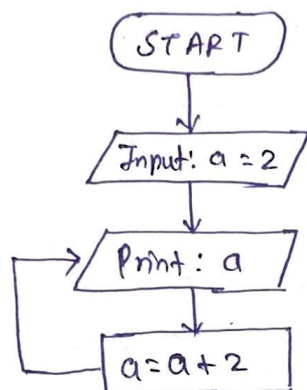
Q.20) To print the following series ODD number Series 1 3 5 7 9 11 13

```
                    ┌──────────┐
                    │  START   │
                    └──────────┘
                         │
                         ▼
                   ╱─────────────╱
                  ╱ Input: a = 1 ╱
                 ╱─────────────╱
                         │
                         ▼
          ┌───►   ╱───────────╱
          │      ╱ Print: a   ╱
          │     ╱───────────╱
          │            │
          │            ▼
          │     ┌─────────────┐
          └─────│  a = a + 2  │
                └─────────────┘
```