1) Java program to print an integer Enterd by the user

• Algorithm:

Step 1: Start
Step 2: Take input from user by creating reader instance
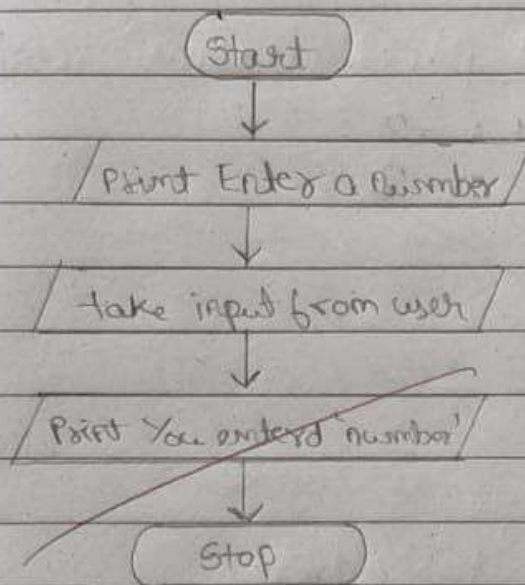Step 3: Enter a number (print)
Step 4: Read a number enterd by user
Step 5: Print the number entered by user
Step 6: Stop.

• Flowchart:

```
        ┌──────────┐
        │  Start   │
        └──────────┘
             │
             ▼
    / Print Enter a number /
             │
             ▼
    / take input from user /
             │
             ▼
    / Print You enterd number /
             │
             ▼
        ┌──────────┐
        │  Stop    │
        └──────────┘
```

- Code

```java
import java.util.Scanner;
public class HelloWorld {
    public static void main (String[] args)
    {
        Scanner sc = new Scanner (System.in);
        System.out.println ("Enter a number:");
        int number = sc.nextInt();
        System.out.println ("You entered: "+number);
    }
}
```

- Output

Enter a number : -2
You entered   : -2

```
C:\Users\bmsce>CD C:\Users\bmsce\Desktop\1bm22cs027

C:\Users\bmsce\Desktop\1bm22cs027>javac HelloWorld.java

C:\Users\bmsce\Desktop\1bm22cs027>java HelloWorld
Akanksha Singa
1BM22CS027
Enter a number: -2
You entered: -2
```

2) Java program to check whether a number is even or odd

. Algorithm

Step 1 : Start

Step 2 : Print Enter an integer number

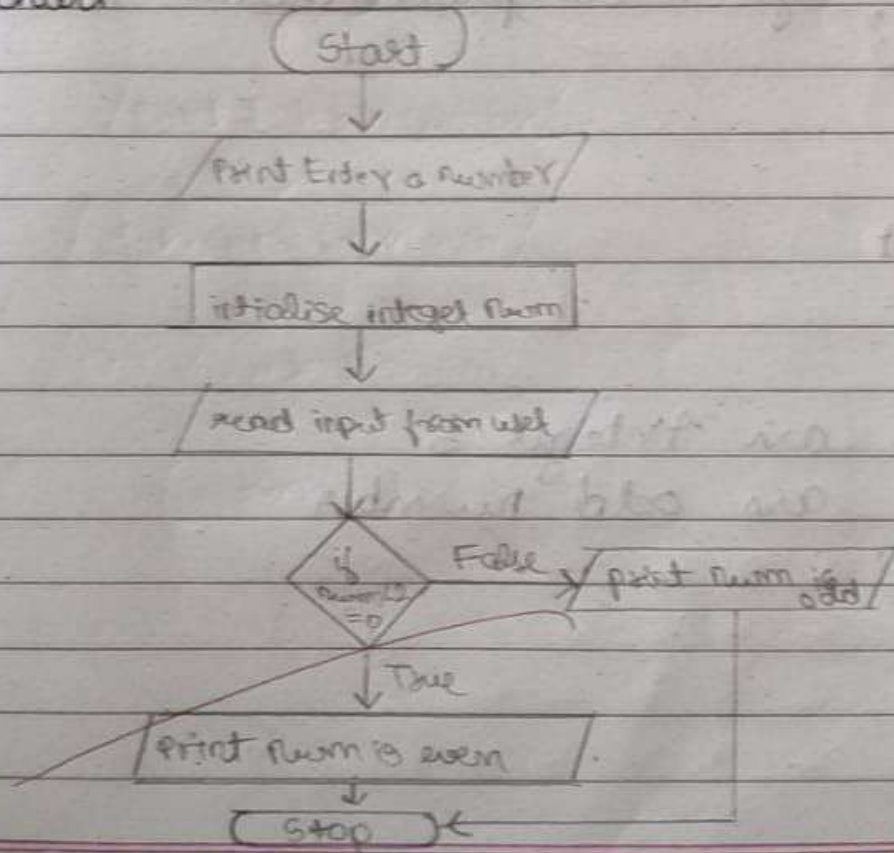Step 3 : Take input from the user and stor it in a variable num

Step 4 : Check if num/.2 gives remainder 0

Step 5 : If true print number is an even no and go to step 7 else go to step 6

Step 6 : print 'number' is an odd no

Step 7 : Stop

. Flowchart

```
           ( Start )
               |
               v
     / Print Enter a number /
               |
               v
     | initialise integer num |
               |
               v
     / read input from user /
               |
               v
            /  if  \        False
           <  num/.2  >--------->  / print num is odd /
            \  =0  /
               |
               | True
               v
     / print num is even /
               |
               v
           ( Stop )<---------
```

- Program

```java
import java.util.Scanner;
public class JavaExample
{
    public static void main (String[] args)
    {
        int num;
        System.out.print ("Enter an Integer number:");
        Scanner sc= new Scanner (System.in);
        num= sc.nextInt ();
        if (num%.2 ==0)
        System.out.println (num+" is an even no");
        else
        System.out.println (num+" is odd number");
    }
}
```

- Output

Enter an Integer : 5
5 is an odd number

```
C:\Users\bmsce\Desktop\1bm22cs027>javac JavaExample.java

C:\Users\bmsce\Desktop\1bm22cs027>java JavaExample
Akanksha Singa
1BM22CS027
Enter an Integer: 5
5is an odd number
```

3) Java Program to print right triangle star pattern with 8 nō of rows.

- Algorithm

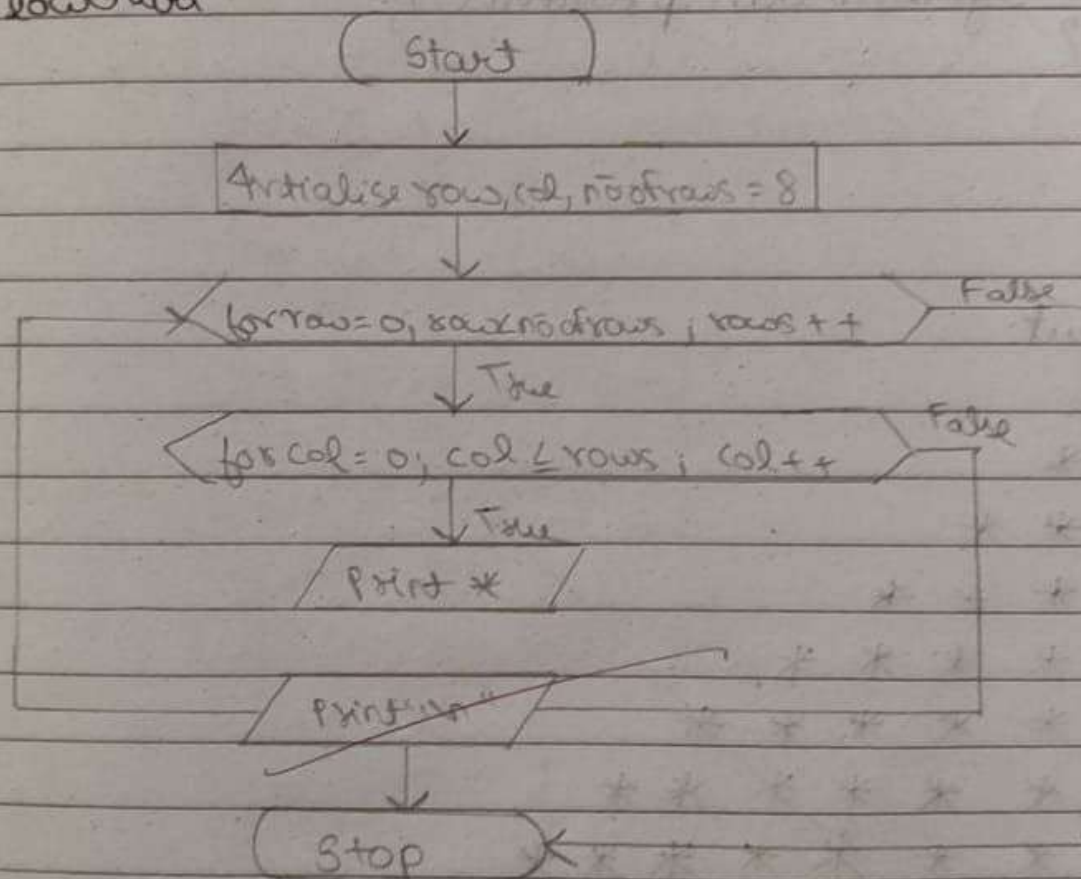Step 1 : Start

Step 2 : Intialise row, column, nō of rows = 8

Step 3 : for row less then nōofrows inckease row by one else goto step 6

Step 4 : for column less then noofrows increase column by one else goto step3 & printnewline

Step 5 : print *

Step 6 : Stop

- Flowchart

- Program
```
public class Triangle;
{
    public static void main (String[] args)
    {
        int row, column, numberofrows = 8;
        for (row = 0; row< numberofrows; row++)
        {
            for (column=0; column<numberofrows; column++)
            {
                System.out.print ("*");
            }
            System.out.println ();
        }
    }
}
```

- Output
```
*
* *
* * *
* * * *
* * * * *
* * * * * *
* * * * * * *
* * * * * * * *
```

```
C:\Users\bmsce\Desktop\1bm22cs027>javac Triangle.java

C:\Users\bmsce\Desktop\1bm22cs027>java Triangle
Akanksha Singa
1BM22CS027
*
**
***
****
*****
******
*******
********
```

4) Java program to Find Quotient and Remainder of 15 and 2

. Algorithm
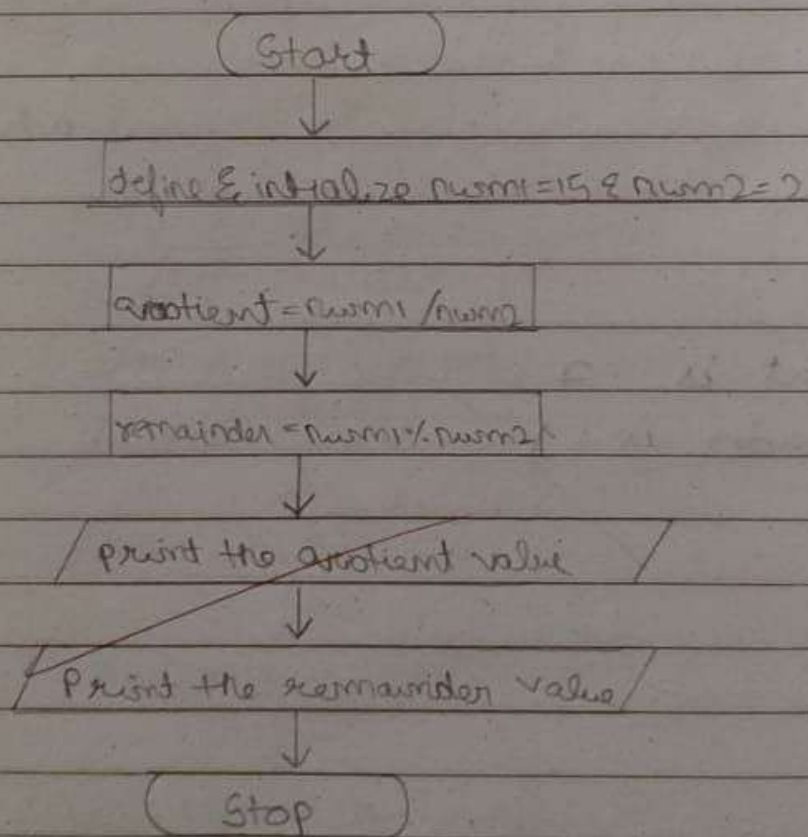
Step 1 : Start
Step 2 : Intialise num1 = 15 and num2 = 2
Step 3 : Intialise quotient = num1/num2
Step 4 : Intialise remainder = num1 % num2
Step 5 : Print values of quotient & remainder
Step 6 : Stop

. Flowchart

```
                    ( Start )
                        |
                        v
    | define & intialize num1=15 & num2=2 |
                        |
                        v
        | quotient = num1 /num2 |
                        |
                        v
        | remainder = num1 % num2 |
                        |
                        v
        / print the quotient value /
                        |
                        v
      / Print the remainder value /
                        |
                        v
                    ( Stop )
```

• Program: import java.util.Scanner;
Public class QandR
{
    public static void main (String[] args)
    {
        Scanner
        int num1 = 15, num2 = 2;
        int quotient = num1/num2;
        int remainder = num1 % num2;
        System.out.println (" Quotient is " +quotient);
        System.out.println (" Remainder is: "+remainder);
    }
}

• Output

Quotient is : 7
Remainder is : 1

```
C:\Users\bmsce\Desktop\1bm22cs027>javac QandR.java

C:\Users\bmsce\Desktop\1bm22cs027>java QandR
Akanksha Singa
1BM22CS027
Quotient is : 7
Remainder is: 1
```

5) Java Program to Multiply Two Numbers
. Algorithm
Step 1 : Start
Step 2 : Print Enter first number
Step 3 : Intialise num1 of type int and read input from user
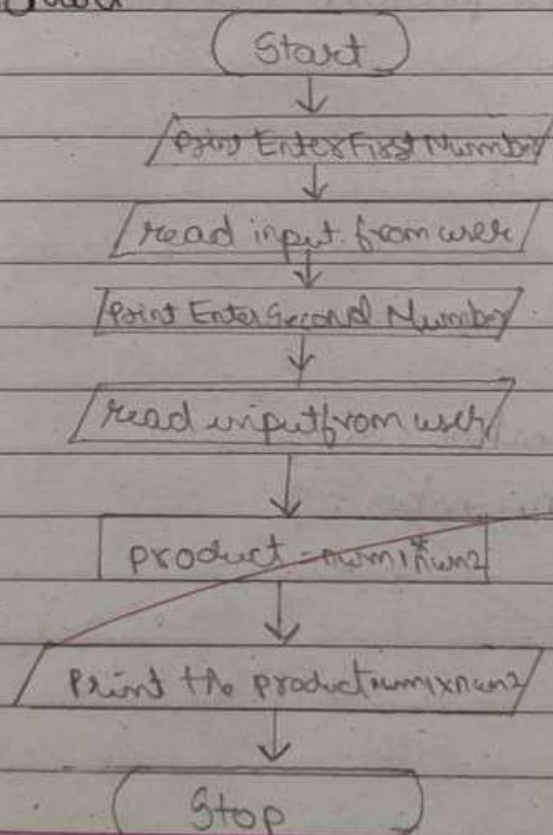Step 4 : Print Enter second number
Step 5 : Intialise num2 of type int and read input from user
Step 6 : Calculate product = num1 * num2
Step 7 : Print product
Step 8 : Stop

. Flowchart

```
         ( Start )
            ↓
  / Print Enter First Number /
            ↓
  / read input from user /
            ↓
  / Print Enter Second Number /
            ↓
  / read input from user /
            ↓
  [ product = num1 * num2 ]
            ↓
  / Print the product num1 x num2 /
            ↓
        ( Stop )
```

- Program

```
Import java.util.Scanner;
public class Multiply
{
    public static void main (String[] args)
    {
        Scanner sc = new Scanner (System.io);
        System.out.print ("Enter first number:");
        int num1 = sc.nextInt();
        System.out.print ("Enter second number:");
        int num2 = sc.nextInt();
        sc.close();
        int product = num1*num2;
        System.out.println ("" + num1 + "x" + num2 + "=" +
                                                    product);
    }
}
```

- Output

Enter first number: 5
Enter second number: 2
    5 x 2 = 10

```
C:\Users\bmsce\Desktop\1bm22cs027>javac Multiply.java

C:\Users\bmsce\Desktop\1bm22cs027>java Multiply
Akanksha Singa
1BM22CS027
Enter first number: 5
Enter second number: 2
5 x 2 = 10
```

6) Swap two floating point numbers 1.2 & 2.45
   • Algorithm
Step 1 : Start
Step 2 : Define first and second as float datatype
         and intialize to 1.2 & 2.45
Step 3 : Print statement before swap.
Step 4 : Print first and second number
Step 5 : Create a temp variable of float datatype
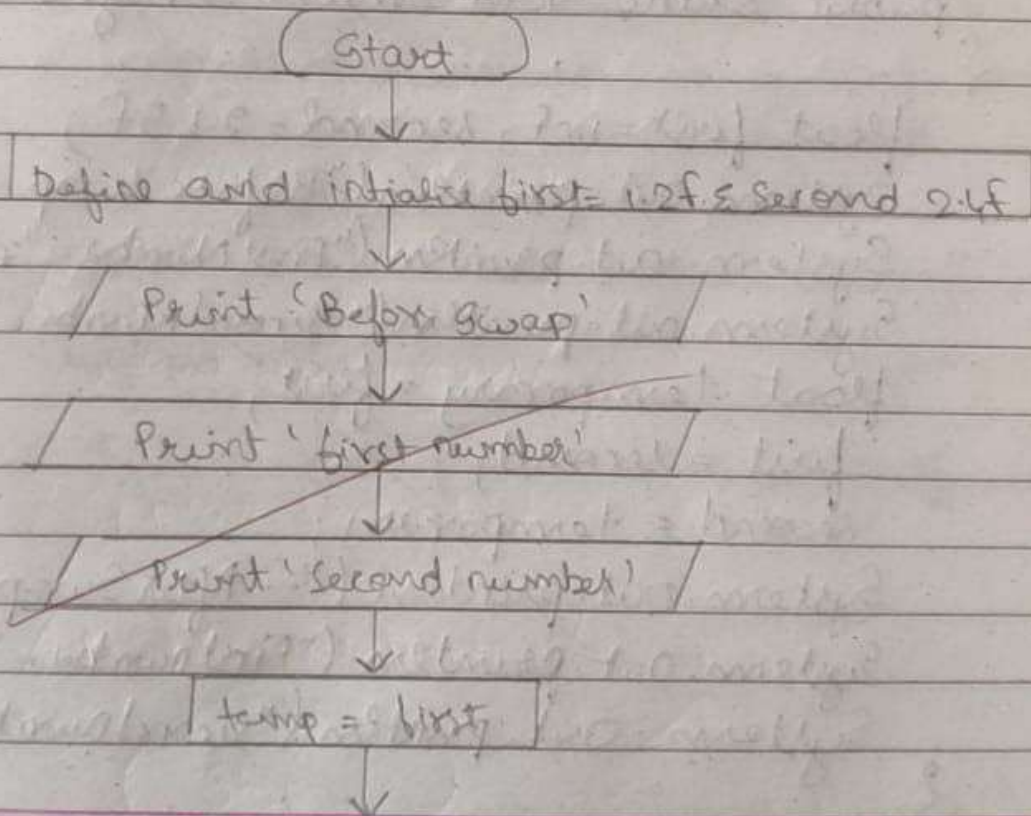   and store value of first variable
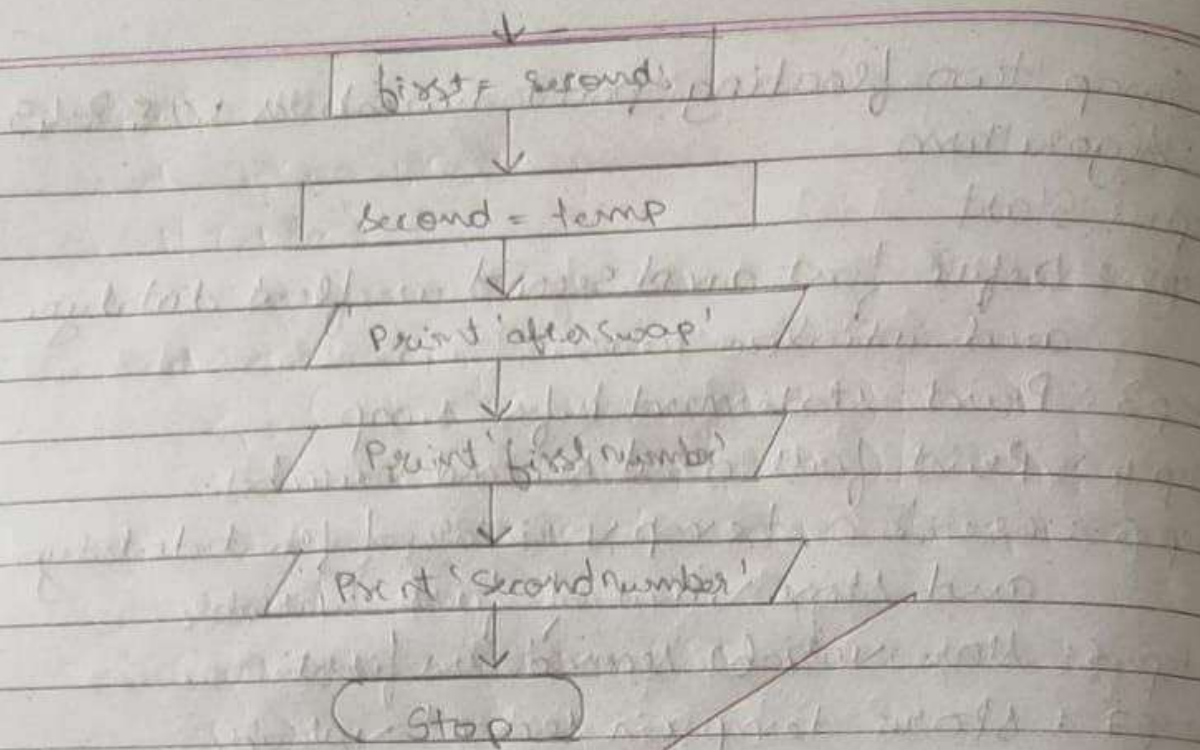Step 6 : Store variable second in first
Step 7 : Store temp in second variable
Step 8 : Print statement after swap
Step 9 : Print first and second number
Step 10 : Stop

```
                    ( Start )
                        |
                        v
  | Define and intialise first = 1.2f & second 2.4f |
                        |
                        v
          / Print 'Before swap' /
                        |
                        v
          / Print 'first number' /
                        |
                        v
          / Print 'second number' /
                        |
                        v
              | temp = first |
                        |
                        v
```

```
┌─────────────────┐
│  first = second │
└─────────────────┘
         ↓
┌─────────────────┐
│  second = temp  │
└─────────────────┘
         ↓
   ╱ Print 'after swap' ╱
         ↓
   ╱ Print 'first number' ╱
         ↓
   ╱ Print 'second number' ╱
         ↓
      ( Stop )
```

- Program

```java
public class Swap {
    public static void main (String[] args)
    {
        float first = 1.2f, second = 2.45f;
        System.out.println("Before swap--");
        System.out.println("First Number = "+ first);
        System.out.println("Second Number = "+ second);
        float temporary = first;
        first = second;
        second = temporary;
        System.out.println("--After Swap--");
        System.out.println("First number = "+ first);
        System.out.println("second number = "+ second);
    }
}
```

• Output

-- Before Swap --

First Number = 1.2

Second Number = 2.45

-- After Swap --

First Number = 2.45

Second Number = 1.2

```
C:\Users\bmsce\Desktop\1bm22cs027>javac Swap.java

C:\Users\bmsce\Desktop\1bm22cs027>java Swap
Akanksha Singa
1BM22CS027
--Before Swap--
First number= 1.2
Second number= 2.45
--After Swap--
First number= 2.45
Second number= 1.2
```