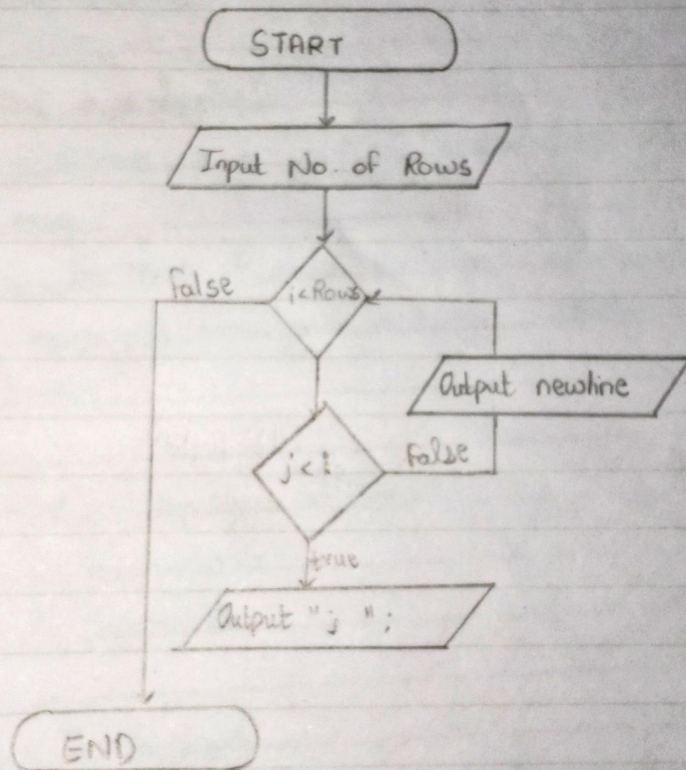


Practical No. 03

Aim: Create, debug, and run java programs based on decision making and looping.

Flow chart:



Code 1

Aim: Create, debug, and run java programs based on decision making and looping.

Theory:

What is a looping?

→ A loop is a way of representing lines of code more than once.

The block of code contained within the loop will be executed again and again ~~and~~ until the condition required by the loop is met.

What are the types of loops?

- i) Indeterminate
- ii) Determinate

i) Indeterminate:

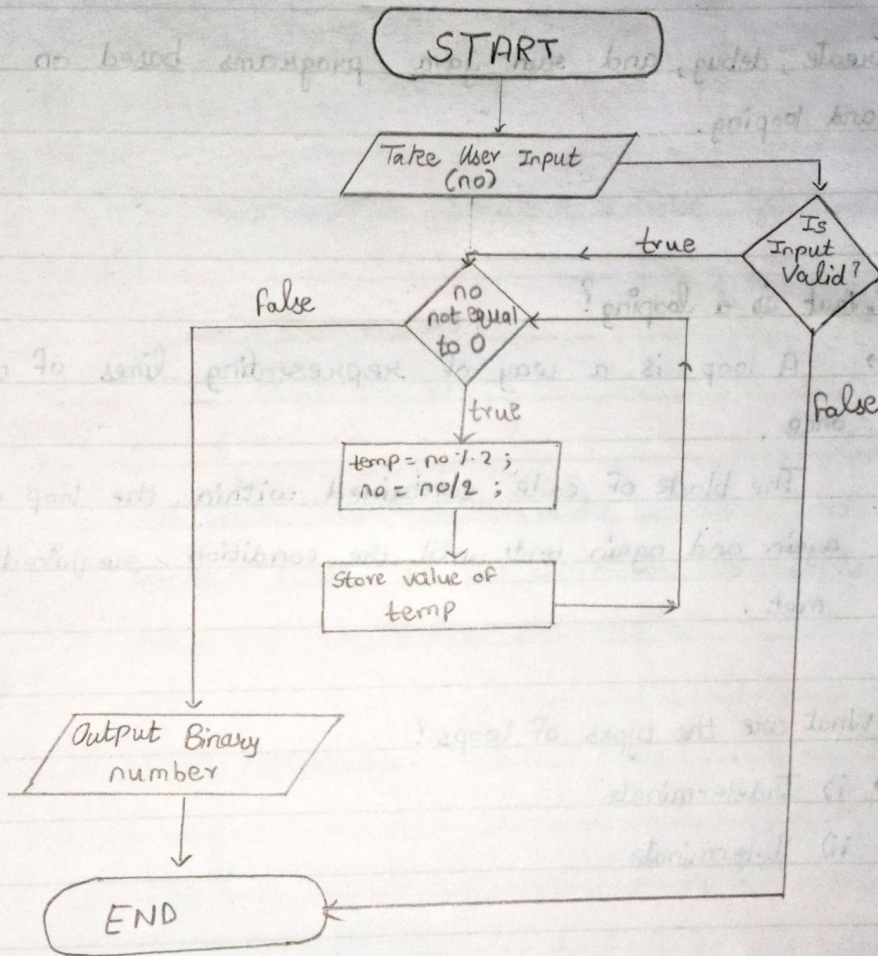
An ~~int~~ indeterminate loop does not know how many times it will run.

For example, while, do...while.

ii) Determinate :

A determinate loop knows exactly how many times it will loop.

For example, for loop.



Code 2

The While and do-while statements:

The while statement continually executes a block of statements while a particular condition is true. Its syntax can be expressed as:

```
while (expression) {  
    statement(s)  
}
```

The while statement evaluates expression, which must return a boolean value. If the expression evaluates to ~~true~~ true, the while statement executes the statement(s).

Do-while statement:

```
do {  
    statement(s)  
} while (expression)
```

The difference between do-while and while is that do-while evaluates its expressions at the bottom of the loop instead of the top.

The for Statement :

The for statement provides a compact way to iterate over a range of values. Programmers often refer to it as the "for loop" because of the way in which it repeatedly loops until a particular condition is satisfied.

```
for (initialization ; termination ; increment) {  
    statement(s);  
}
```

- The initialization expression initializes the loop; its executed once as it begins.
- ~~When~~ When the termination expression evaluates to false, the loop ~~term~~ terminates.
- The increment expression is invoked after each iteration through the loop; it is perfectly acceptable for this expression to increment or decrement a value.

Conclusion : Hence, by performing this practical I learnt the concept of decision making and looping and I also created, debugged and ran java programs based on decision making and looping