The WHILE Loop

A byte size lesson in Java programming.

Why use a WHILE Loop?

- In Java, the WHILE loop is useful when you need to run specific code until a certain condition is met.

- This is different from the FOR loop, which runs for a specific amount of times.

```
while (testExpression) {
// body of loop
}
```

Breaking it down

```
while (testExpression) {
// body of loop
}
```

- testExpression inside parenthesis () is evaluated. If it evaluates to true, body of loop is executed, and testExpression is evaluated again.

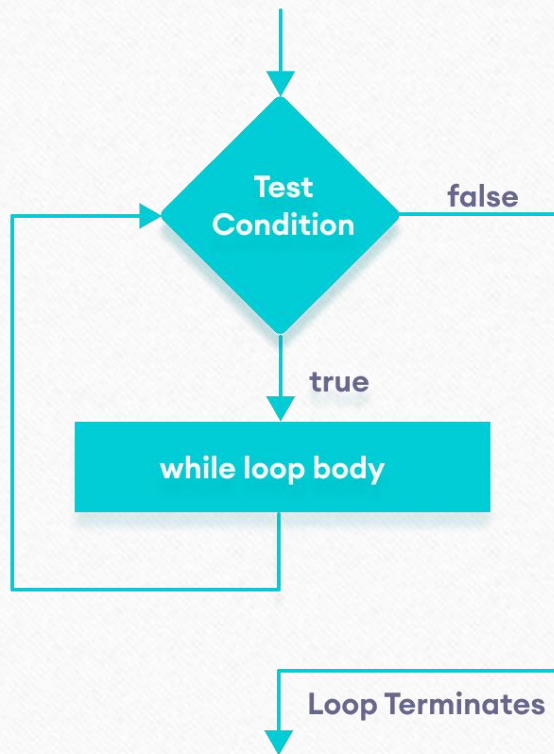- This continues until testExpression is false.

Let's test your understanding!

- What output would the following give?

```java
int i = 1;

while(i < 4) {
    System.out.println(i);
    i++;
}
```

Flowchart

- As long as the test condition is true, it keeps looping.
- There is the danger that it will never stop looping!
  - E.g while(false){ System.out.println("Oh No!");}

- What input would I need to give to stop this WHILE loop?

```java
import java.util.Scanner;

class Main {
  public static void main(String[] args) {

    Scanner input = new Scanner(System.in);

    System.out.println("Enter a number");
    int number = input.nextInt();

    while (number >= 0) {

      System.out.println("Enter a number");
      number = input.nextInt();
    }

    input.close();
  }
}
```