

A decorative graphic on the left side of the slide consisting of two overlapping parallelograms. The front one is blue and the back one is a light green color. They are positioned diagonally, with the blue one in front of the green one.

# Introductory Java and FTC Programming Workshop

*Week 1 - Loops and Functions (Oct. 24)*

Hanson Chan

## Recap of last week

J HelloWorld.java > ...

```
1  public class HelloWorld {  
    Run | Debug  
2  |  public static void main(String[] args) {  
3  |      System.out.println(x:"Hello World");  
4  |  }  
5  }  
6  |
```

## Recap of last week

J HelloSomeone.java > ...

```
1  import java.util.Scanner;
2
3  public class HelloSomeone {
    Run | Debug
4      public static void main(String[] args) {
5          Scanner input = new Scanner(System.in);
6
7          System.out.print(s:"What is your name: ");
8          String name = input.nextLine();
9
10         System.out.println("Hello " + name);
11     }
12 }
13 |
```

# Java Loops

## Definite loops

- For loops

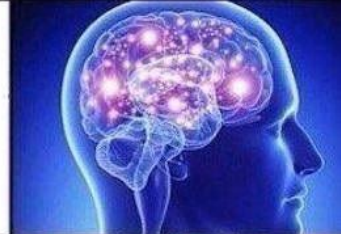
## Indefinite loops

- While Loops
- Do While loops

**Using for  
Loops**



**Using while  
loops**



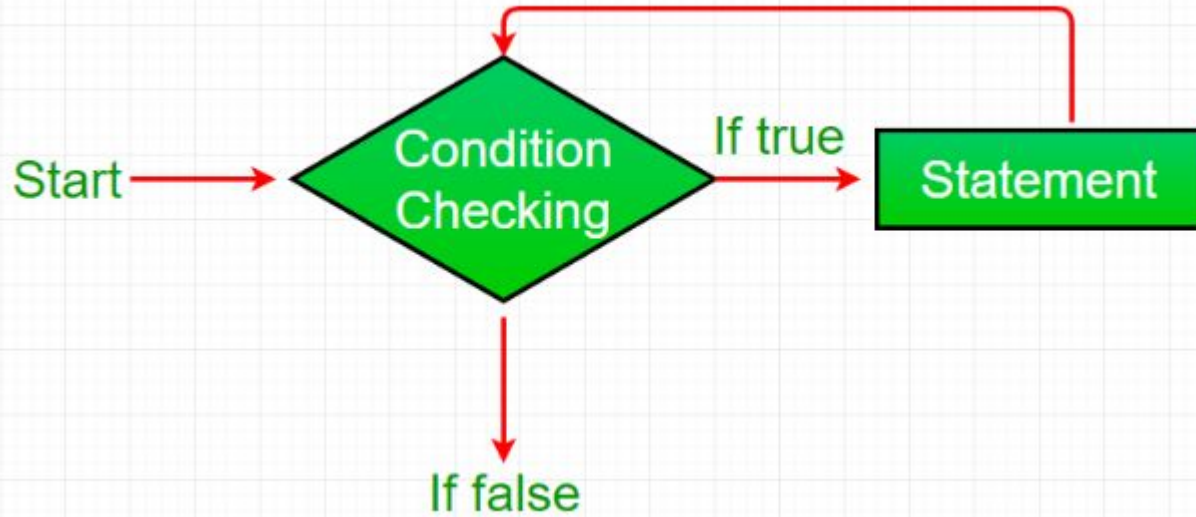
**Using recursive if  
statements**



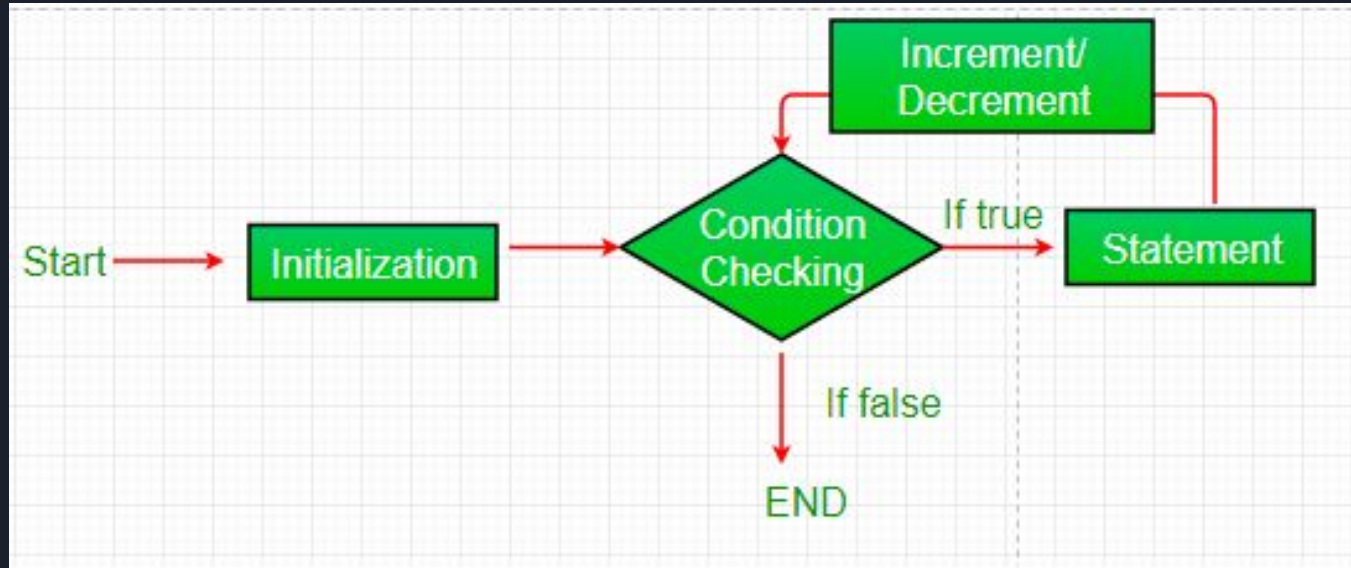
**Just copying  
and pasting your  
code for each  
iteration**



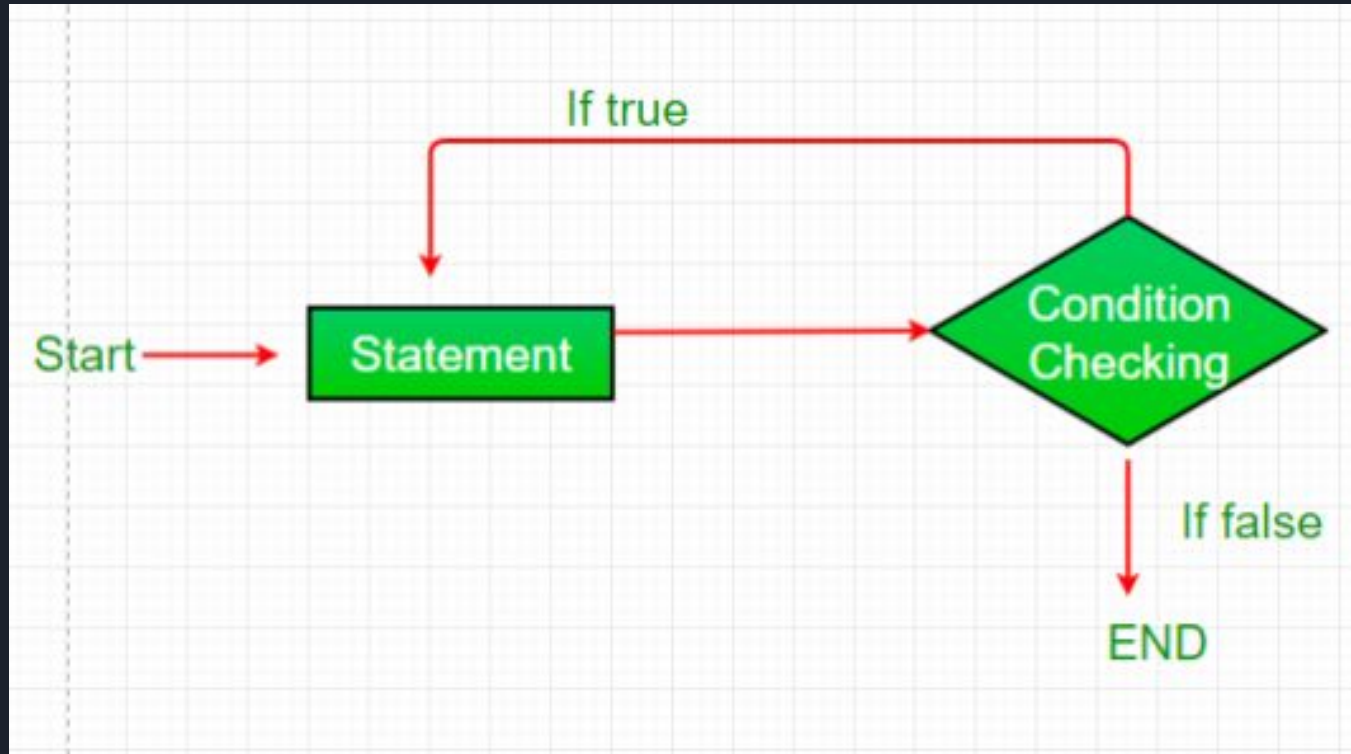
Which loop is this?



# Which loop is this?



Which loop is this?





# Programming Challenge

## Mario!

<https://cs50.harvard.edu/x/2024/psets/1/mario/less/>

1. Have a prompt that asks for an integer
  - a. Ensure input is between 1-8
2. Print the Pyramid

Bonus:

## Mario+

<https://cs50.harvard.edu/x/2024/psets/1/mario/more/>







# Programming Challenge (Cont.)

## How to solve? Start with Pseudocode

If unsure how to solve the problem itself, break it down into smaller problems that you can probably solve first. For instance, this problem is really two problems:

1. Prompt the user for the pyramid's height
2. Print a pyramid of that height