

There are two primary types of loops available in Java: for loops and while loops. For loops are used when there is a pre-determined number of times to iterate through a section of code. The for loop begins with 'for' followed by three arguments. The first argument initializes the variable that will (typically) be incremented after each iteration of the loop. This variable is typically 'i' but it doesn't have to be. The second argument sets the maximum of the variable from the first argument, which essentially determines how many times the loop will iterate. Lastly, the third argument specifies how to change the value of the looping variable; this is typically done by incrementing by 1. Here is how the for loop is written. This look will print the value of i in each iteration of the loop:

```
for (i = 1, i < 10, i++){  
    System.out.println(i);  
}
```

A while loop is similar to a for loop, in that it will iterate over a section of code repeatedly. The difference with a while loop is that the number of times you iterate through the loop is not necessarily predetermined; the loop will end once a specified condition is met. Another difference is that an "iteration" variable is often required and, if so, must be explicitly incremented in order to count how many iterations of the loop have been completed (different from the for loop, which has this variable built into the for statement itself). A while loop begins with 'while' followed by a conditional expression. The conditional expression must evaluate to false at some point, otherwise the loop will run forever. Therefore, the code inside the loop must change the variables in the conditional expression in some way. This is not true with for loops, where the loop will end once the "iteration variable" reaches the termination point. Here is an example of a while loop. This loop will continue to iterate through the loop until the variable 'apples' exceeds 10, which, due to the if statement, will only happen when 'count' is even:

```
int apples = 0;  
int count = 0;  
while (apples < 10){  
    if (count % 2 == 0){  
        apples++;  
    }  
    count++;  
}
```

Sources:

<https://docs.oracle.com/javase/tutorial/java/nutsandbolts/for.html>

<https://docs.oracle.com/javase/tutorial/java/nutsandbolts/while.html>