Introduction to Loops

Loops are a technique that allow us to execute a statement many times. This is what gives a computer program its true power because computers can execute statements in

loops millions of times a second.

There are 4 basic loop structures in Java. Here are the first three:

1. The while loop:

while (condition)

loop-body-statement

loop-body-statement is a single statement, simple or compound

condition is any boolean expression

While loop behavior:

1) the condition is evaluated

2) if the condition is true:

2a) the loop body statement is executed

2b) repeat step 1

if the condition is false, go to the next statement of the program

Example 1: A silly example that prints "Hello" forever:

while (true)

System.out.println("Hello");

Here is another equivalent one:

while (1 == 1)

System.out.println("Hello");

Example 2: A silly example that prints "Hello" never:

while (0 == 1)

System.out.println("Hello");

Note that we can put anything that evaluates to a boolean inside the parentheses.

Example 3: An example that prints "Hello" 5 times:

We need to keep track of how many times we have printed "Hello". So we need a variable to store that number.

int count = 0;

while (count < 5) {

System.out.println("Hello");

count = count + 1;

}