Week 2 Research

This week in Java we were introduced to the different boolean operators, user inputs, and most importantly and the one I struggled with the most, loops. The types of loops that I learned this week are for loops, while loops, and do while loops. It doesn't matter what loop we use they all can do the same thing, but depending on the situation it may be easier to use a certain loop. While loops checks at the beginning of the loop and do while loops check at the end of the loop.

For loops syntax is as follows. First you set the value of what we are working with. Then we want to set a condition to know how many times we want to print out the code as long as it remains true. Finally, we set the increments, following that we can add to it or sysout. We should use for loops whenever we know how many times we want the code to run. A for loop that prints out the numbers 0 to 100 should look something like this:

```
for (int i = 0; i <= 100; i++) {  System.out.println(i) }
```

A while loop is good to use when we have less knowledge on the amount of iterations we need. In a while loop we set a condition first, then we can sysout and then set the increments so the code doesn't infinitely run. A code the works the same as the for loop would look something like this:

```
int i = 0;
while (i <= 100) { System.out.println(i); i++; }
```

A do while loop is the same as a while loop, but it checks at the end. The value would sysout said value and then check to see if it is true or not before looping. An example of a do while loop that does the same as above is as follows:

```
do { System.out.println(i); i++;
} while (i <= 100);
```

My favorite thing I learned this week is definitely playing around with the boolean operators. We haven't really went in depth with User Inputs, but from working on the labs this week, it does look pretty interesting. My main struggle this week were loops and plan on doing more practice on them throughout this course.

Works Cited

Promineo Tech. Loops. 25 June. 2019. Loops.

  https://www.youtube.com/watch?v=n3OEtq08ARw&t. Accessed 17 Sept. 2022.