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Back-End Software Developer

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Week 2: Research Assignment

1. What are the different loops Java provides us with?

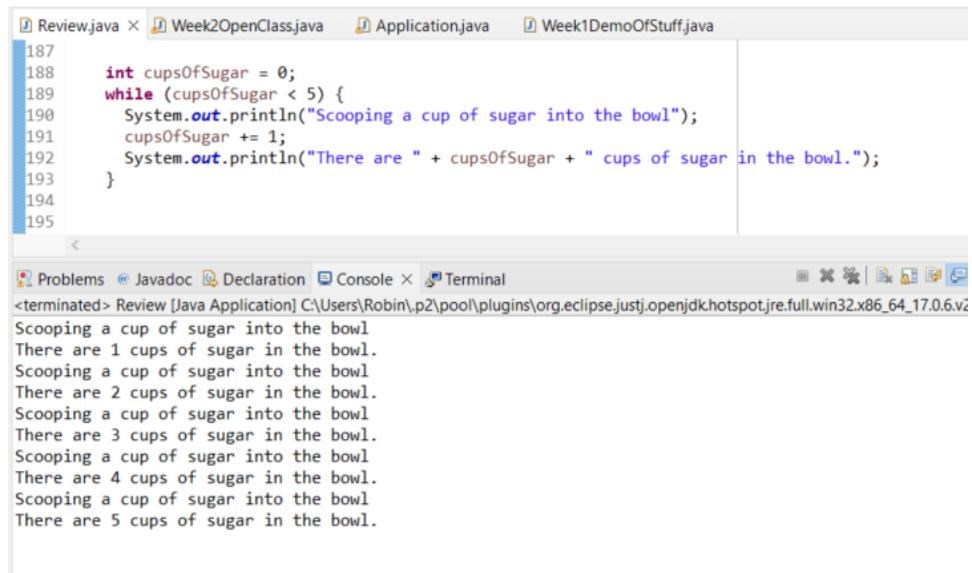
- I. `for` loop
- II. `while` loop
- III. `do while` loop

2. What is the syntax (I) of one of the loops in your above answer? How and when should you use this loop (II)? Give an example (III).

I. `while` loop syntax (Kantor):

```
1 while (condition) {  
2     // code  
3     // so-called "loop body";  
4 }
```

II. According to Busbee, a while loop is “a control flow statement that allows code to be executed repeatedly based on a given Boolean condition.” Loops are used to repeat the same section of code being executed, repeatedly, before moving onto the next line of code or until the loop has met the condition to stop the loop from running again, which then allows the program to continue to the next line of code and proceed processing.



The screenshot shows the Eclipse IDE with four tabs: Review.java, Week2OpenClass.java, Application.java, and Week1DemoOfStuff.java. The Review.java tab is active, showing a Java program with a while loop. The code is as follows:

```
187
188 int cupsOfSugar = 0;
189 while (cupsOfSugar < 5) {
190     System.out.println("Scooping a cup of sugar into the bowl");
191     cupsOfSugar += 1;
192     System.out.println("There are " + cupsOfSugar + " cups of sugar in the bowl.");
193 }
194
195
```

The console window at the bottom shows the output of the program:

```
<terminated> Review [Java Application] C:\Users\Robin\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.6.v2
Scooping a cup of sugar into the bowl
There are 1 cups of sugar in the bowl.
Scooping a cup of sugar into the bowl
There are 2 cups of sugar in the bowl.
Scooping a cup of sugar into the bowl
There are 3 cups of sugar in the bowl.
Scooping a cup of sugar into the bowl
There are 4 cups of sugar in the bowl.
Scooping a cup of sugar into the bowl
There are 5 cups of sugar in the bowl.
```

III.

Example of while loop:

```
1 int cupsOfSugar = 0;
2 while (cupsOfSugar < 5) {
3     System.out.println("Scooping a cup of sugar into the bowl");
4     cupsOfSugar += 1;
5     System.out.println("There are " + cupsOfSugar + " cups of sugar
in the bowl.");
7 }
```

3. What is your favorite thing you learned this week?

- I. My favorite thing I learned this week was `ctrl+7` toggles comment on/off for whatever line(s) of code are highlighted, woot!

Works Cited

Busbee, Kenneth L. "While Loop – Programming Fundamentals." *Rebus Press – OER by Rebus Community*, 15 Dec. 2018,
press.rebus.community/programmingfundamentals/chapter/while-loop/. Accessed
10 Mar. 2023.