

CS 200 Sections 02 & 04 Spring 2013

Week #10: Top 3 Lessons Learned

- 1) There are two types of loops:
 - a) Pre test loop (for or while)
 - b) Post-test loop(do while)
- 2) Every loop has a STARTING, STOPPING, BODY & MOE. (The starting can be same as MOE)
- 3) In loops NEVER USE "continue" to skip an iteration or for exiting "break"
- 4) In syntax of do-while loop you must include semi-colon after the while condition. This loop is the exception, as the for and while loops do not use a semi-colon after the conditional statement.
- 5) Sentinel value used to mark end of list.
- 6) MOE= Method of Egress
- 7) for loop syntax: for(starting/initial value, stopping condition,MOE) { }

M. Zaki

1. The **continue**; and **break**; should not be used in loops as it can be confusing to use. **Continue**; allows loop to skip to the next iteration. **Break**; allows for a premature exit of the loop.
2. MOE or method of egress is used to get out of a loop. It can be done with a boolean condition set to false, reach a count in a variable, or it can be a user control. User control can be chosen by a sentinel value to signal the end of repetition.
3. There are increment operators (++x and x++) and there are decrement operators (--x and x--). ++x and --x are called prefix as they change the variable before using it. x++ and x-- are post-fix as they change the variable after using it.

D. Starostka

Three things that I learned on 3/12/2013 are that a sentinel is used to mark the end of a list. A sentinel cannot be a value that could be part of the list. Also, a delimiter is used to separate things. Second, you should always have a method of egress in your loops. A method of egress is a way to get out of the loop. If you do not have a method of egress, you can have an infinite loop. Third, you should not use the break and the continue statements in your loops because they are considered sloppy coding.

J. Gomez

1. If we want to verify if the FIRST character of a string/array is either number or letter (lower case, etc) we can use ASCII table and verify by:

```
if(userInput.charAt(0) >= '0' && userInput.charAt(0) <= '9') //for numbers
```

```
if(userInput.charAt(0) >= 'a' && userInput.charAt(0) <= 'z') //for lower case letters
```

```
if(userInput.charAt(0) >= 'A' && userInput.charAt(0) <= 'Z') //for upper case letters
```

2. do-while loop is only one that does require semicolon:

```
do
{
//something...
count++; //MOE...
} while (userInput != -100); // <--- stop if satisfied
```

3. Don't use break; or continue; within a loop.

M. Mardosz

1.) the best syntax for a pre-test loop that is counter controlled, a loop that can loop 0 times at the least, is a FOR loop since the whole processes of the loop (starting point, stopping condition, and MOE) is stated right at the top. One major syntax error you can do for a FOR loop is putting a semicolon at the end. (ex. for (x = 1; x<11; x++);) which makes an empty loop.

2.) When the program has to loop at least ONE time; the best syntax for this is the do-while loop. The types of programs these are used for are usually user input type.

3.) Much like the branching tool, a loop tool can only execute ONE statement unless you use { } in order to create a compound statement. REMEMBER TO MAKE BOTH BRACKETS AND LABEL THE CLOSER!!

E. Herring

1. The difference between a for loop and a while loop in java.

The conditions for both the 'while' and 'for' loop are exactly the same, but in each flow structure the conditions are placed in different locations. A 'for' loop places the starting value, stopping condition, and MOE within 'for' loop statement, whereas the 'while' loop places the initial/starting value prior to the while statement and MOE within the body of the loop.

2. An important difference between a pre-test loop and a post-test loop is that the pre-test for or while loops might be not executed, if the condition is not true to start. But the post-test do-while loop will be executed at least once.

3. We do not write a semicolon after the beginning of a for statement or a while statement.

The semicolon at the end means that the body of the for or while statement is empty. A semicolon by itself is considered a statement that does nothing. It is called the empty statement or the null statement.

D. Mirdadi