Philip Pesic
Week 6
February 26 2023
Week 6 Q14
1) What facts of reality give rise for the need of Loops ?
Programmers are lazy, and they don't want to write the same block of code many times.
2) What are the three parts governing a for loop?  The variable declaration, the condition, and the modifier.
3) What is an Infinite Loop ? A loop that never ends
4) Write a Condition that would result in an infinite loop. Int $i = 0$ ; While $(i == 0)$ {};
5) What type of Sequence is a loop?
A contiguous repeating sequence

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6) What does the flow chart for a for loop look like?

A yellow diamond represents the loop. For a false condition, the loop continues down the sequence of events. For true, the sequence branches to the side, executes a block of code, and then continues to the top of the loop to repeat.

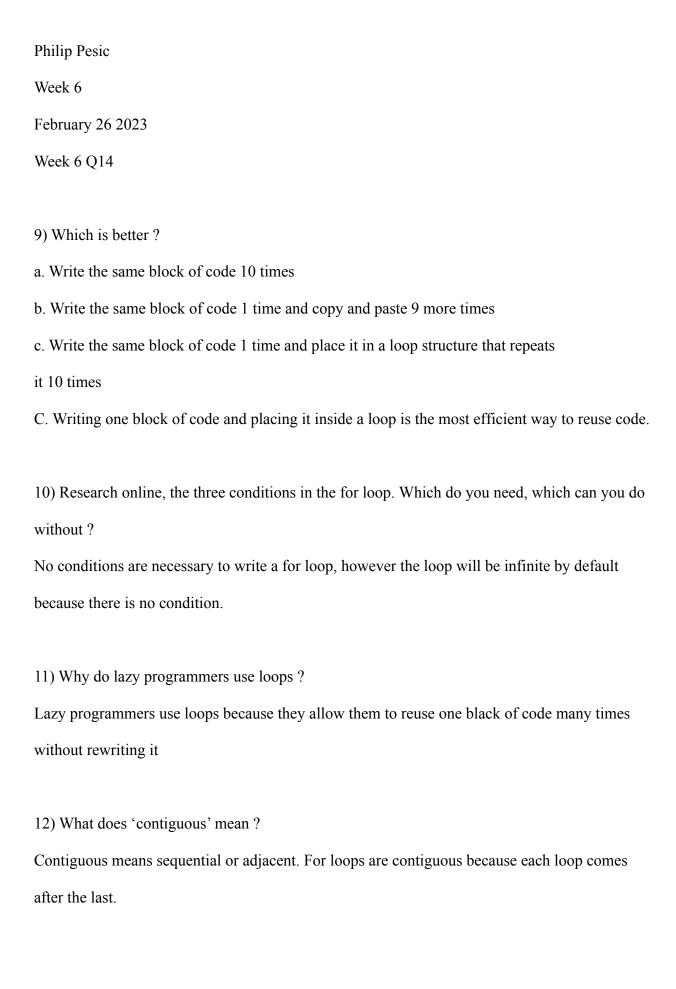
7) What is the differences between a pre-test and post-test loop?

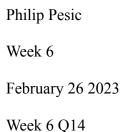
A pretest loop is a loop that checks its condition before running each loop. A posttest loop is once that executed once, then checks the condition for the next loop.

8) What is a nested for loop? Give an example.

A for loop inside of a for loop. The nested for loop will run completely for each loop in the outer loop.

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Ex: for (int i = 0; i < 3; i++) {
For (in x = 0; x < 5; x++) {}
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13) How are a simple sequence and a loop different?

A simple sequence has no branching paths and continues in a straight line, in contrast to a loop which creates a branch that cycles backward.

14) Why do you like or dislike loops?

I like loops because they allow you to write impossible long programs with one block of code. For example, instead of manually writing out a million numbers, loops just allow you to print a variable, and then increase the variable for each loop until 1000000.