Midterm Review Sheet

The midterm will be a 50 test with 10 questions modeled closely after the types of questions that you have been seeing on quizzes. They will basically be of a short answer form where I'm either asking you about some aspect of programming or where I want you to describe how you would solve a problem in Alice. When you are asked to describe how you would solve something in Alice you should be as explicit as possible, writing things out the way they would appear in Alice if possible. You will be allowed to have Alice open and running during the test, but all of your answers must be written on the exam. I recommend that you don't rely too heavily on Alice during the test period as doing so will probably cause time problems.

The test can cover any topic discussed in class or covered in the readings prior to the exam. Below I've listed most of the topics and given you something of a hint as to the types of things I might ask you.

Program Design – Know the basic process of designing a program.

Methods – Understand what methods are, where you can add methods in Alice, and what you should be using different types of methods for. Know the significance of problem decomposition and why we do it. It given a statement of a larger problem you should be able to describe how you might break it into pieces.

Variables, Parameters, and Properties – Know the three forms of storing values in Alice and what each is used for. Make sure you can include them properly in a description of how you would solve a problem.

Functions – You need to know what functions are in Alice and when you use them. You might be asked to help create a function to help you solve a particular problem.

Boolean Expressions – You need to understand Boolean logic and be able to build up Boolean conditional statements from simpler variables or expressions.

if Conditionals – Know what the if is, when, and how you use it.

Loops – Know the proper usage and when you would want to use both the for and while loops. Be able to integrate them into the solutions of other problems. You should also know how to use the loop variable in a for loop.

Recursion – You need to understand how recursion can provide us with repetitive behavior as well as what you need to do in order to make a recursive function not go on forever.

Lists – Know what lists are and what you can do with them. This includes the operations we can do on them as well as their methods and functions.

Arrays – Given the limited nature of arrays in Alice I'm not going to ask much about them, but you should understand how they differ from lists. I will not ask a question that requires you to use an array instead of a list.

Events – You need to understand the concepts of events and be able to describe their usage in solving particular programming problems.

World Functions – I'm not going to ask you direct questions about these, but it is quite likely that they will appear as part of the solution to other problems where you are asked how to solve a problem.

Coding in General – You never need to tell me that you would drag one thing or another into place to solve a problem. Telling me what the "code" looks like in Alice when you are done is sufficient. The Java-like syntax will likely make more sense to me than the other if you want to be on the safe side.