CS108 Final Review Guide

The test will heavily emphasize core programming concepts such as use of variables, loops, conditionals ("if" statements), and expressions. Several questions refer to processing specifically, for example correct use of the draw function. No questions refer to App Inventor specifically.

A 3" by 5" notecard of notes is allowed on the final, but no other resources (closed book, closed notes). This test will be on paper, without using the computer.

A quick overview of the test from Spring 2018 (NOT this semester's test):

Page	Question Format	Total Points	Topics
1	None	0	Cover Page
2	8 Multiple Choice	24	General
3	2 Short Answer	14	Loops, nested loops, variables
4	2 Short Answer	13	Variable types, simulations
5	2 Short Answer	12	Processing programs (setup, draw, mouseClicked), drawing, colors
6	2 Short Answer	13	Loops, drawing
7	2 Short answer	10	Conditions, variables, loops, strings, print vs. println
8	2 Short Answer	10	Images, drawing

Sample Questions

Question 1: *(7 points)* What is the output of the following program?

```
int sum = 0;
for(int i = 0; i < 10; i++){
   println("i = " + i);
    sum += i;
}
println("sum = " + sum);
```

Question 2: *(5 points)* Explain the use of the "draw" function in Processing. How can you determine the mouse cursor position? Give a draw function which draws an ellipse where the mouse is located.

Question 3: What is printed by the following code?
```
int x = 5;
int y = 2;
println(y / x);
```

   A. 0.4
   B. 2/5
   C. 0
   D. 1
   E. 2.5

Question 4: *(7 points)* Convert the following "for" loop to a "while" loop that does the same thing

```
for(int i = 10; i >= 0; i--){
    println(i);
}
```

Question 5: What is printed by the following line? `println( "5" + "4" );`

  A. 54
  B. 9
  C. 5 + 4
  D. "5" + "4"
  E. 5 4

Question 6: *(10 points)* Write code that, given A, B, and C, prints out the middle value. That is, for example, if A=2, B=3, and C=4, then the program should print 3. If A=10, B=5, and C=100, then it should print 10.

```
int A, B, C;
// Code that will set the value of each of these
// Your code starts after this
```