**Chapter 1**

1.1.1

a. 7

b. 200.0000002

c. False

1.1.2

a. Type: double Value: 1.618

b. Type: double Value: 10.0

c. Type: Boolean Value: True

d. Type: String Value: 33

1.1.3

if (a==b && b==c)

System.out.println(“equal”);

else System.out.println(“not equal”);

1.1.4

a. The ‘then’ doesn’t belong; it will cause an error

b. There are no parenthesis around the condition

c. Nothing wrong

d. There is a missing semicolon after the first 0

1.1.5

if ((x <1.0 && x>0.0)&&(y<1.0&&y>0.0)) System.out.println(“true”);

else System.out.println(“false”);

1.1.6

0

1

1

2

3

5

8

13

21

34

55

89

144

233

377

610

1.1.7

a. 3.00009

b.999000

c.10000

1.1.8

a. b — In the case of a single char in single quotes, ‘out’ just prints the character

b. 197 — When java tries to add the chars together, it converts them into arithmetic operators rather than concatenating them.

c. e — The output is formatted with ‘char,’ and then the user adds 4 to the ASCII value of ‘a,’ returning the ASCII value formatted to be output as a character

1.1.12

0

1

2

3

4

4

3

2

1

0

**Chapter 2**

1.2.6

In CircularRotation.java on my GitHub

1.2.12

In LukeDate.java on my GitHub

**Chapter 3**

1.3.3

b., f., g. could not happen

1.3.9

In Pcount.java on my GitHub

**Chapter 4**

1.4.1

The first ‘for’ loop encompasses all N objects, the second encompasses N-1, and the third encompasses N-3.

Take N=5 (for the purposes of the mathematical analysis, I’m going to start the indices at i=1)

Starting with the third ‘for’ loop, we must run from i=3 1 times; we must run from i=2 2 Times, and we must run 1 3 times. So we’re looking at (1\*3)+(2\*2)+(3\*1), or 10 individual runtimes.

N^3-3N^2+2N/6 when evaluated at N=5 returns 10.

The 1/6 coefficient is there because we are running with no repetition, so we aren’t running through the data N times, we’re running through it a fraction of that amount.

1.4.5

a. ~N

b. ~1

c. ~1

d. ~2N^3

e. ~lg(N)

f. ~lg(N^2)

g. ~N^100

1.4.6

a. (2N-1)

b. (2N-1)

c. NlgN

1.4.9

T(N)=aN^blgN