Ericson Demo

Assignment 2

Writing the actual code took about 3 hours, I had one file that worked but I did not like how sloppy the code was, so I rewrote it. The java file that in turning in is much better than my first attempt.

**What I learned from the assignment**

I learned that doubles are a lot more accurate when compared to floats, I also learned some new things that you can do in java, For example

try(FileWriter file = new FileWriter(fileName);)

{}

Catch

{}

The file will automatically get closed after the code in the try brackets is executed, I think that’s nice. I used the Decimal Format Class so that my numbers would not print in scientific notation, I also used the Math.abs Function so that I wouldn’t have data with a negative value. I had also never used multiplication to increment a for loop until now.

Observations during the assignment

Data is much easier to look at when it gets formatted nicely.

The double data types rounding errors are less severe when compared to the float data type.

For example

For 1000000000 iterations:

One half addition (double): 500000000

One half multiplication (double): 500000000

The difference (double): 0

One third addition (double): 333333332.6651181

One third multiplication (double): 333333333.3333333

The difference (double): 0.66821522

VS

For 1000000000 iterations:

One half addition (float): 8388608

One half multiplication (float): 500000000

The difference (float): 491611392

One third addition (float): 8388608

One third multiplication (float): 333333344

The difference (float): 324944736

You can see that the floats have a much higher rounding error than the doubles.