**Hypothesis:**

**The number fish will spike, dip, then level for both amounts.**

**Notes:**

Due to a bug I can't diagnose, I cannot find the true count of the fish. The one place where the fish count decrements is guarded by a check if there aren't zero fish in that cell already. I tried using an unsigned int and checking for overflow, but notice that when I don't use it, the count of fish steadily decreases, so it can't be that there's an overflow. I have failed in this regard and will try to make do with the data I have.

**10,000 fish:**

1. Do the algae and fish populations settle down to being roughly the same between iterations?

**The algae die down to 0. The fish increase a little, then start decreasing (rapidly). The first two elements of my hypothesis are supported in this regard.**

2. Do the algae and fish populations cycle between iterations in small cycles?

**The algae can't recover. The fish only ever decrease by 100,000 or 200,000 at a time.**

3. Does the count of cells with 0, 1, 2, 3, and 4 cells settle down to be roughly the same between iterations?

**The same as themselves, but not each other; the count for 0s turns full (100^3) and then none of the counters change again.**

4. How long does it take to settle down?

**For algae: about 60.**

**For fish: never.**

**100,000 fish:**

1. Do the algae and fish populations settle down to being roughly the same between iterations?

**Surprisingly, the algae go to 0 at the same speed (not faster). The fish likewise increase for about ten generations before rapidly sloping downwards.**

2. Do the algae and fish populations cycle between iterations in small cycles?

**Once again, algae can't recover after going to 0. In this case, it is by *1,000,000 or 2,000,000* that the fish count decreases.**

3. Does the count of cells with 0, 1, 2, 3, and 4 cells settle down to be roughly the same between iterations?

**The same as themselves, but not each other.**

4. How long does it take to settle down?

**For algae: about 60.**

**For fish: never.**