

HW 0 Problem 3

Friday, June 5, 2020 9:40 PM

1. Why did Fibonacci fail the **testThrowsIllegalArgumentException** test? What did you have to do to fix it?

The reason is because it looked for ≤ 0 . This is not what the exception means. $n=0$ is a base case and having ≤ 0 would mean it would hit that case which is wrong. I took out the equal sign.

2. Why did Fibonacci fail the **testBaseCase** test? What (if anything) did you have to do to fix it?

The base case was not properly defined as ≤ 2 . $n=2$ is not a base case so I had to change it. Because I had already checked if it was less than 0 I knew that n at that point would have to be greater ≥ 0 . Thus I just removed the equal sign to account for 0 and 1.

3. Why did Fibonacci fail the **testInductiveCase** test? What (if anything) did you have to do to fix it?

The Inductive definition was wrong. The recursive definition is $T(n) = T(n-1) + T(n-2)$. So I had to change the minus and plus sign in what was written originally which was $T(n) = T(n+1) - T(n-2)$.