

## Assignment 2: Small Step in Recursion

Good morning Percy,

Nice job on your first assignment. Our first impression of you is that you're no Howard. So you, like the rest of us, will need to spend the majority of your time cleaning up after him...

Howard likes recursion a lot. A LOT. We want you to practice your recursion by implementing the factorial function recursively.

The **factorial** method should take in an integer,  $n$ , and return  $n!$  which is defined as follows:

$n! = 1 * 2 * \dots * (n - 2) * (n - 1) * n$  (with the exception that  $0! = 1$ ). For example,  $3! = 3 * 2 * 1 = 6$

As part of this assignment, we also want you to familiarize yourself with unit tests. We use the test framework provided by Microsoft with Visual Studio. In the solution there should be a TestCalculator project which contains unit tests. The unit tests have already been started, but testFact1() needs to better exercise your factorial method.

For reference, we have already implemented a recursive fibonacci solution as well as a unit test for it.

Completion criteria:

- Implement `public int factorial(int n)` which calculates  $n!$  recursively
- Get testFact1 passing and improve upon it to better exercise your function

Best,

Your Boss