

## COSC201: Tutorial Week 4

### Proofs: Recurrences, Iteration and Induction

Solve the following by iteration<sup>1</sup> and prove your solution correct by induction.

1. Solve for  $g(n)$ :

$$\begin{aligned}g(1) &= 0 \\g(n) &= g(n-1) + (n-1)\end{aligned}$$

2. Solve for  $f(n)$ :

$$\begin{aligned}f(1) &= 1 \\f(n) &= n \cdot f(n-1)\end{aligned}$$

If you've done those, finish any of the questions from last week.

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<sup>1</sup>The method on page 13 of lecture 7 notes