

# CSC236 Assignment 1

## week 1 hints

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Here are hints to get you started on Assignment 1.

1. If you have a box of dominoes, count them. Try some small cases (“dominoes” that only go up to 0, 1, or 2 dots). Try small cases for the dominoes as well.
2. How many different numbers of acquaintances could a student have? Be sure to consider the frantic extrovert who knows everybody, as well as the loner who knows nobody.
3. How does  $D(3)$  build on  $D(1)$  and  $D(2)$ ? Is there a similar pattern for  $D(n)$  when  $n$  is larger?
4. How close is the pair  $(0, m)$  to what the proposition in part (a) requires? Does the pair help the proof in any way?
5. Try some small connected graphs to convince yourself that the claim is true. What is the connection between small and large graphs?
6. Write down what the expression means and manipulate the algebra.