Optional Ungraded [No Credit] Activity 2

Proof-Writing

ECE 120 Introduction to Computing

University of Illinois Urbana-Champaign

Fall 2025

Instructions

1. **Take it easy!** This is an ungraded assignment designed to support and engage you throughout your journey in ECE 120.
2. State any assumptions you make.
3. Try to be as complete and precise as possible.
4. Submit your work through Canvas/Gradescope directly!

Suggestions

While writing your answers and/or proofs, try to think about the following:

1. What is it that you are given? What is it that you are assuming? What is it that you are trying to prove?
2. How exactly does a step follow from the previous step? Assume nothing is apparent, even algebraic simplifications. Your reasoning should be clear and convincing.
3. If you are using a result from the class then state it clearly before using it. You should identify where exactly you need that result, cast your problem into the setup of the result, and then use it.
4. If you are using a result from outside the class then you should prove it before using it

Questions

Prove that the set {OR, XNOR} is logically complete (assume logic 0 and 1 are given).