HARDWARE 1:
INPUT AND OUTPUT

STUDENT RUBRIC

DEMO RUBRIC

You will receive a **seven** for a complete demo and a **zero** otherwise.

Despite the fact that you only have to follow the instructions provided, and there is no design component to this lab, you may still run into some trouble. Old protoboards may be causing issues, the wiring may be too loose (how deep is the insertion?), there may be missing connections, the LEDs may be in the wrong way (long leg should be on the resistor side), and you may not yet be familiar with the fact that voltage is shared across lines. Try to eliminate all of these misunderstandings and technical bugs now, and not during HW2.

Completion Requirements:

- ✓ Wire the first six input switches to a 7405 inverter channel.
- ✓ Ensure that each LED turns on with its corresponding switch.
- ✓ Try to avoid "negative logic" (where off is on and on is off).

REPORT RUBRIC

There are no deliverables for this lab, only the two questions. You may very well just submit your two answers as plaintext on HuskyCT. Also, you will have to so some searching for the answer to the 7404 vs. 7405 question, and as a hint, you won't find that information in the modules.

Scoring (out of 3 points):

- ✓ **[1.5 points]** Question 1: 7404 vs. 7405 chip.
  - You will receive partial credit for an incorrect answer, but be sure to do your own research and come up with what you feel is a comprehensive explanation.
- ✓ **[1.5 points]** Question 2: LED amperage
  - Make sure you're using Ohm's Law and the correct values for resistance and load. Don't overthink this one!