In the fall of my sophomore year, in Digital Circuits, we were tasked with creating a combination lock using the three main logic integrated circuits: AND, OR, and NOT gates. The lock circuit was designed using a combination of 1s and 0s. After building it on a breadboard we also had to program it using Verilog. The circuit was designed so that if the correct combination of 1s and 0s was entered, the indicator light would turn on. There are two codes: a regular code on the top side of the board and a master code on the bottom. Either will unlock the vault.

A diagram of a circuit

Description automatically generated

A circuit board with wires and wires

Description automatically generated