

## **Digital Design Lab #10: Final Project**

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### **Objective:**

### **Design:**

**Procedure:** To begin, a state diagram was made for the safe according to the specifications laid out in the manual. The state diagram was then converted to the VHDL code above, which was compiled in Xilinx. Test vectors were then made that would test each function of the safe. The test vectors were then simulated for through Xilinx and the functionality was checked for each function of the safe. The program was then uploaded to a board and tested. The clock was adjusted from low to high and back between every button press to simulate the actual safe. Also, to push a button, a switch was flipped to high and back to low, to represent a button being pressed and let go.

### **Data:**

### **Data Analysis:**

### **Conclusion:**