

Final Exam Project
My Integrated Lab

ECE 367
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Schematic, Program Code, and Logic Diagram attached to the end of report.

User Manual:

Upon Startup, You will be greeted with a menu. From this menu you may access one of five different programs by pressing the respective number.

1. Now Serving
2. 24 Second Shot Clock
3. Digital Combination Lock
4. Math Flash Cards
5. Real Time Clock

If ever you wish to return to the main menu, simply press E.

Now Serving

This program will count up for you every time you press A.

You can reset the count at any time by pressing B.

Shot Clock

This program will start at 24. You can start/stop the timer at any time by pressing A. You can also reset the timer by pressing B.

Combo Lock

This program simulates a lock.

Upon starting, press D to set a lock code. To do so, type 1235. The display should now show E P. Now you may enter your desired code.

To unlock, type in the code and press A.

To lock, press B.

To clear the input on the main screen, press C.

Math Flash Cards

This program will start with a menu:

1. Addition
2. Subtraction
3. Multiplication
4. Division

Choose one and you will be presented with a problem. Use the numbers to enter your guess. If the answer may be negative, press B at the beginning of your input.

To check your answer, press C. You will be told if you are correct or incorrect.

Clock

The clock will start at 12:00am. You must press F and enter the current time to use the clock. At any time, you may press A to switch between 12/24 hr formats and B to switch between 1x/120x speeds. After the initial setup, you may press F at any time to change the time.

Conclusion

This assignment asked for 6 labs. However, I was unable to complete lab 11, so I omitted it from my code completely. All the included labs work, with the exception of lab 12. The code by itself works perfectly, however, I am having problems enabling the TC0 interrupt. If I could get this to work as TC5 does for lab 4, then I would be able to say that all 5 included labs work as expected.