

Physics 335, Spring Quarter 2013

Electric Circuits II

Homework #6: Common project proposal

Due Thursday May 16 in class

You'll need to submit & pass this before you can proceed with the common-project lab.

Firstly, look at the companion document describing the common project: You and your lab partner should print out and submit this filled-out form; you both need only submit one form. Note there are also hardware and software block diagrams you'll append to this form. In rare cases, you can work on without a partner: please see the instructor beforehand.

A. Names of lab partners

Name 2: _____

Name 1: _____

B. I filled in below the title and abstract of the project.

Title: A two-person Jeopardy game

Abstract: This is a two-person game built around the PIC 16F84A microcontroller. The game is loosely based on the game show Jeopardy. Each person controls one push-button. When the game is reset, the game counts down on a LED display. At the end of the countdown, the first player to push their button wins and a LED indicates the win. A too-early push results in a fault and a LED indicates the fault. After a reset, the game starts anew.

C. Block diagram of circuit

Attach to this form a block diagram of your circuit. This should show which external output and input lines are connected to which ports. This is a block diagram: the idea is to show how the external circuitry connects to the microcontroller architecture. It's not a detailed circuit diagram.

D. Block diagram of software

Attach to this form a block diagram of the software. This should not be the actual assembly code, rather it should show the functionality of the software. For instance: where are program loops, when are inputs checked and bits sent to the output? What initializations are done?

E. In the space below, provide a brief description of how the circuit and software works. What do the players do and what will they see? Your text might start with "When the circuit is first powered up, ...".