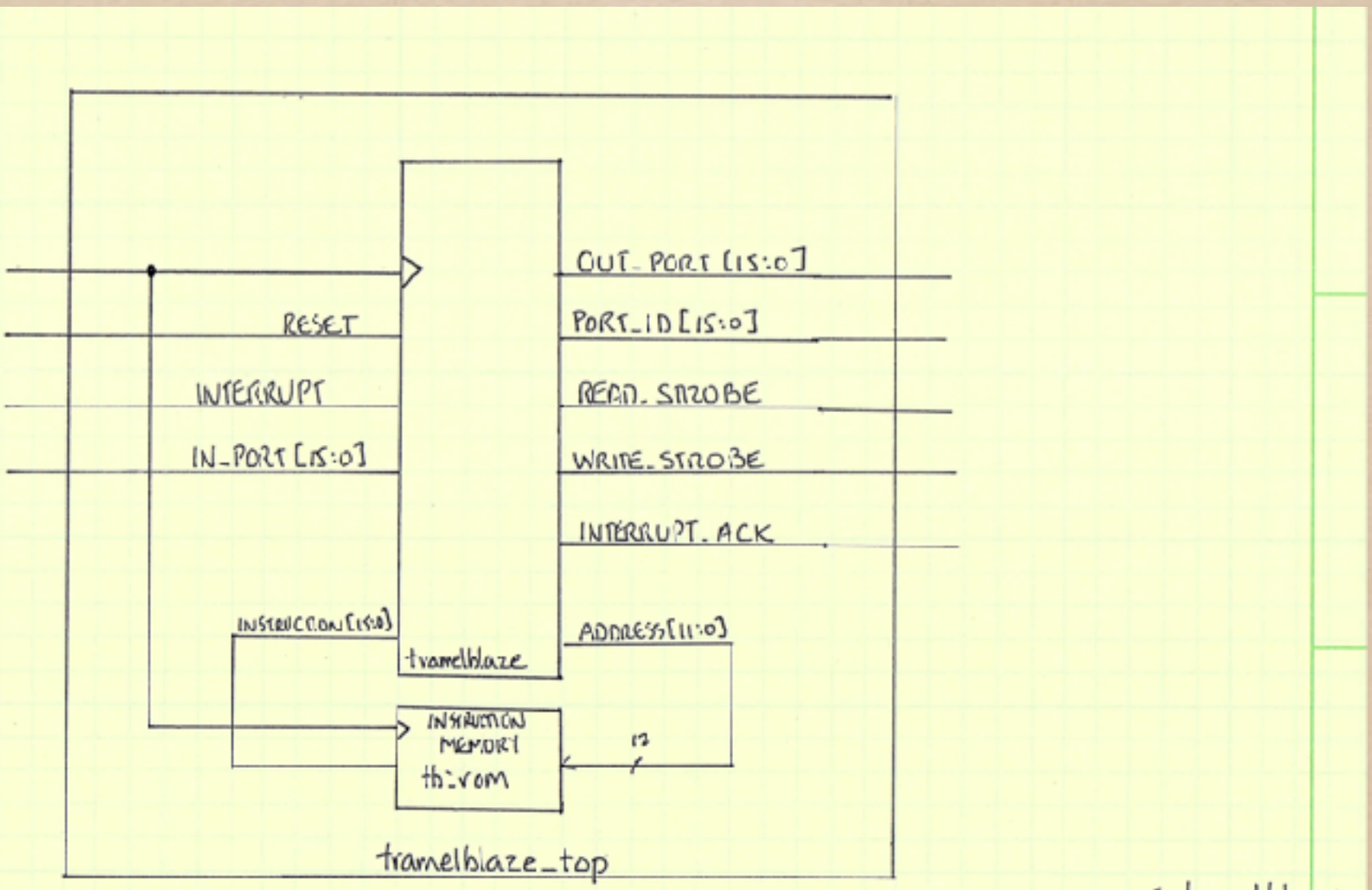
CECS 460

Project 2

Transmit Engine

plus tramelblaze

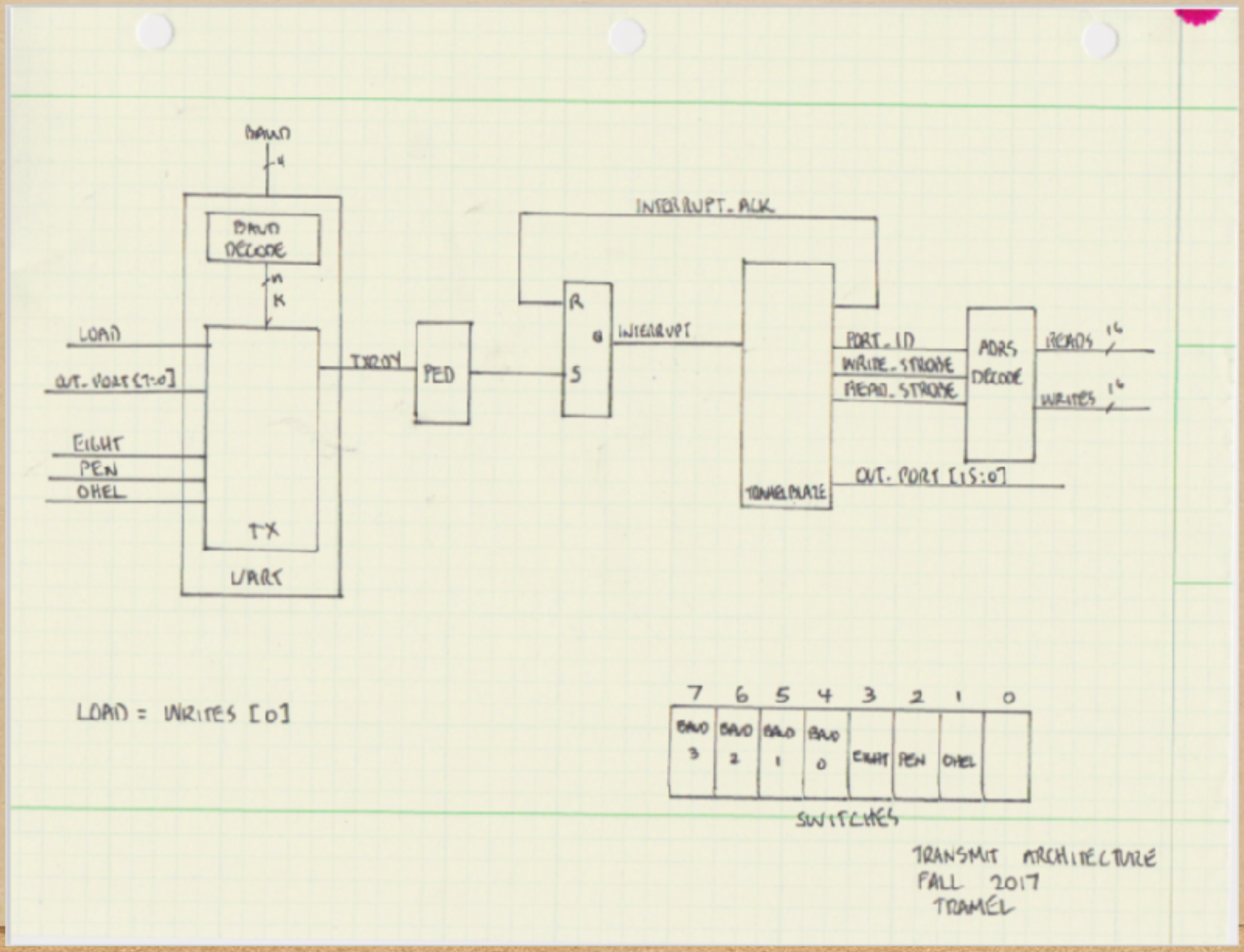
tramelblaze Architecture



ARCHITECTURE OF tramelblaze
INSTANTIATE tramelblaze_top
IN YOUR DESIGN

TRAMEL
4MAR16

Block Diagram



Block Diagram Discussion

- This is meant to convey the TRANSMIT function but by looking ahead we can save ourselves time when we construct our design
- Please use recommended bit positions for the status/data and the configuration switches
- Reset should continue to be sourced by a High-Active momentary button

Project Discussion

- **Make sure you simulate your design before you program your board.** This allows you to see how the inward parts of your design are operating - you might be surprised (not simulating is a big mistake).
- I recommend you verify your decode block between the load and shift registers independently. Verifying its operation in the context of the TX machine is more difficult.
- The software to be written is simple: Respond to the TXRDY bit setting the interrupt to let you know it is time to output another character
- When in the main loop (not servicing interrupt) you should walk a one through the available LEDs. This is an immediate feedback that your software is running in the main loop.
- When you see the TXRDY induced interrupt you should continuously transmit the sequence “CSULB CECS 460 - [COUNT] <CR><LF>”
- The COUNT keeps track of how many times you have output a value to the terminal and should increment by one each time
- <CR> is ASCII 13/0D <LF> is ASCII 10/0A

Deliverables

- Due Tuesday March 7 - keep in mind I will assign the RECEIVE engine on this date. Do your best to keep up with the project work in a timely fashion. Not completing the projects will affect your final grade.
- Complete the documentation using the recommended style from the chip specification presentation
- Please include: Technical discussion, source code (leave out the detailed tramelblaze files), the tba and ucf files
- Please upload the files to Dropbox
- Please demonstrate to instructor with hard copy of deliverables