

You will need to obtain the signature of your instructor or TA on the following items in order to receive credit for your lab assignment. Signatures are due by **Friday, September 27, 2019 (Part 1 Elements)** and **Friday, October 4, 2019 (Part 2 Elements)**.

Print your name below, sign the honor code pledge, and then demonstrate your working hardware & firmware in order to obtain the necessary signatures.

Student Name: HARSH RATHORE

Honor Code Pledge: "On my honor, as a University of Colorado student, I have neither given nor received unauthorized assistance on this work. I have clearly acknowledged work that is not my own."

Student Signature: *H. Rathore*

Signoff Checklist

Part 1 Required Elements

- ☒ Schematic of acceptable quality, correct memory map, SPLD .PLD file
- ☒ Pins and signals labeled, decoupling capacitors, and two 28-pin wire wrap sockets present on board
- ☒ NVRAM (as EPROM substitute), decode logic, and LED functional
- ☒ Understands device programmer.
- ☒ Demonstrated ability to use logic analyzer to capture bus cycles and view fetches from NVRAM. Shows detailed knowledge of both state and timing modes. Captures latched address lines A[15:0], data lines D[7:0], ALE, /PSEN, and NVRAM chip select signal on the logic analyzer display.
- ☒ Shows and discusses logic analyzer screen captures:
- ☒ Assembly program and timer ISR functional:

J. Jannay 9/27/2019
TA signature and date

Part 2 Required and Supplemental Elements

- ☒ AT89C51RC2, RS-232, and FLIP functional
- ☒ 74LS374 debug port functional
- ☒ Understands timing analysis, setup/hold/propagation
- ☒ MSP432 code build process, LED program, version control

J. Jannay 10/4/2019
TA signature and date

Instructor/TA Comments: ☐ ☐ ☐

FOR INSTRUCTOR USE ONLY

Part 1 Elements

	Not Applicable	Poor/Not Complete	Meets Requirements	Exceeds Requirements	Outstanding
Schematics, SPLD code	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hardware physical implementation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Part 1 Required Elements functionality	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sign-off done without excessive retries	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Student understanding and skills	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall Demo Quality (Part 1 Elements)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

FOR INSTRUCTOR USE ONLY

Part 2 Elements

	Not Applicable	Poor/Not Complete	Meets Requirements	Exceeds Requirements	Outstanding
Schematics, SPLD code	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hardware physical implementation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Part 2 Required Elements functionality	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Supplemental Elements functionality	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sign-off done without excessive retries	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Student understanding and skills	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall Demo Quality (Part 2 Elements)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NOTE: This signoff sheet should be the top/first sheet of your submission.

★ Directly connected \overline{OE} to \overline{PSEN}

(+) Good progress shown in understanding concepts

(+) understands timing diagrams.

~~Tausseas~~
9/27/2019

★(+) used Prescaler for LED blinking

★ Supplemental not done