Lab 1 Grading Rubric

Lab 1 is graded in 2 main portions - Lab Report and Lab Demo. The lab report is worth 40% of the grade, and the Lab Demo is worth 60% of the grade. To receive full credit, you must demo the lab with a perfect correctness score, meeting all the requirements of the lab. If the lab is not finished correctly, and some parts are not working, your lab demo score will be the number of points added up out of 100 multiplied by 45.

In order to get full credit for the report, please include all code (that you implemented for the lab). Missing code will be (-5) points. Just a reminder that the report is done individually. Please do not copy answers or work together when writing the report.

Lab 1 Report Grading:

	Full Credit	Partial Credit	No Credit
Introduction and Requirement	10 points - **Background summary of UART protocol. Introduction of the lab and tb design requirements.**	- Partial credit (1/2) may be awarded for minor mistakes in explanations/ schematic designs.	0 points
Nicer UART	5 points - **Explanation of the code implemented in the model_uart module.**	""	""
"An easier way to load the sequencer program"	5 points - **Explanation and identification of the original code/tasks in the tb. (2)** - **Description of the code implemented in tb.v. (3)**	""	""
"Clock Dividers"	5 points - **Waveform and clock frequency of clk_en (1)** - **clk_en duty cycle (1)** - **Value of clk_div (1)** - **Schematic of clk_div, clk_en, and clk_en_d (2)**	""	""

	Full Credit	Partial Credit	No Credit
"Debouncing"	5 points - **Explanation of clk_en_d and clk_en functionality (1)** - **Explanation of clk_dv_inc (1)** - **Waveforms of clk_en, step_d[1:0], btnS, clk_en_d, and inst_vld (1)** - **Schematic of above signals (2)**	""	""
"Register File"	5 points - **Sequential or Combinatorial Logic 1 (1)** - **Sequential or Combinatorial Logic 2 (1)** - **Readout logic (1)** - **Register file circuit diagram (2)** - **Waveform of R3 (1)**	""	""
Conclusion	5 points - **Summary of the design, problems encountered, solutions to them, and suggestions for improvement.**	N/A	""
TOTAL	40 points		

Lab 1 Demo Grading:

	Full Credit	Partial Credit	No Credit
Sequencer Operation Demo Points	15 points - **Translation of the commands into binary** - **Output of the correct register values on the UART console**	5 points - 1 Session late	0 points - More than 1 session late

	Full Credit	Partial Credit	No Credit
Nicer UART	10 points - **Outputs one line after carriage return is received** - **Keeps track of/ stores the bits in a register until carriage return**	5 points - **Not printing the full 4 bits every time, but able to print 3 bits or some variations of the bits**	0 points - **Unable to change the bits printed**
File I/O (An Easier Way to Load Sequencer Program)	10 points - **Takes correct format of the instructions** - **Correctly modifies test bench such that it loads seq.code into an array and executes every instruction**	5 points - Able to load seq.code into the testbench	0 points
Fibonacci Numbers	10 points - Correct sequence of instructions for 10 fibonacci numbers printed on UART	**n/a**	0 points
Clock Enable	15 points - **clk_en added to simulation's waveform** - **Waeform with two occurences of clk_en**	12 points - **Not the exact period**	0 points - **No clock enabled**
TOTAL	60 POINTS		