

Cynthia Li
Professor Hauck
EE 271
Jan. 12th, 2021

Lab 1 report

1. Demo Video:

<https://drive.google.com/file/d/1AI-fLt3erCqygheY5CAjlmxPciTumRDq/view?usp=sharing>

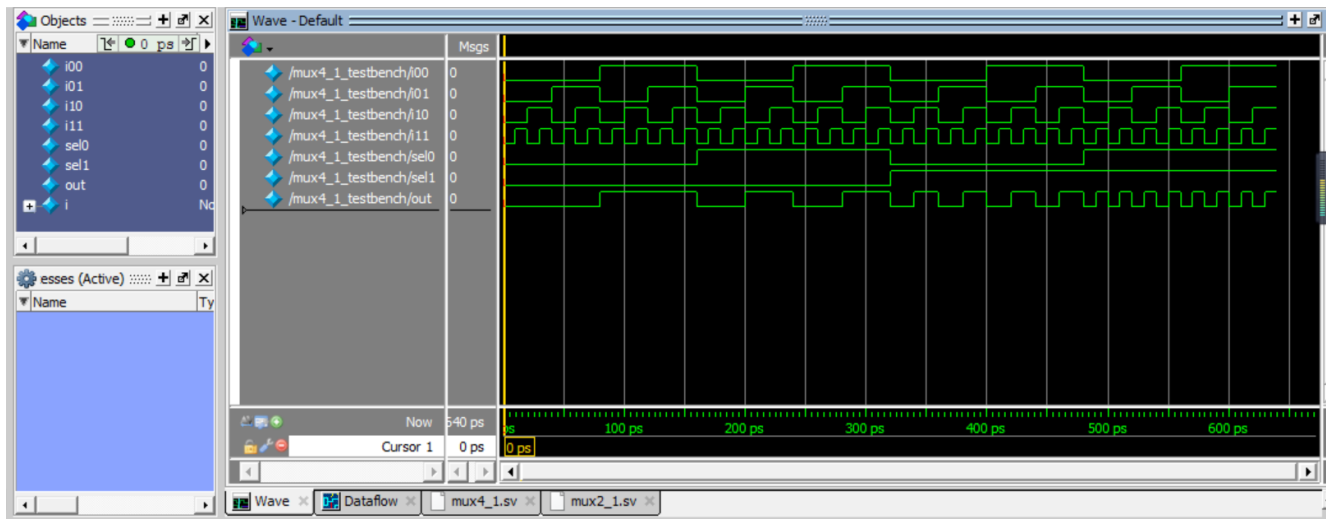
2. What position of the slider switches (SW0 - SW9) causes them to output True? (up or down)

When the switch is up, they output True.

3. What position of the pushbuttons (KEY0 - KEY3) causes them to output True? (pressed or unpressed)

When the KEY is unpressed, they output True.

4. Include a screenshot of your mux4_1 simulation in ModelSim showing the signal names and full simulation waveforms.



5. What does the mux4_1 circuit do? Give a brief explanation of the circuit's function, not just structure (i.e., 'the inputs go to an AND gate, then an OR gate...' is not a functional explanation)

Mux_4 is a 4:1 mux, a device with four data inputs, i00, i01, i10, and i11, and two select inputs sel0 and sel1. When sel0==0 and sel1==0, the output is equal to the i00 input.

When $sel0==1$ and $sel1==0$, the output is equal to the $i01$ input. When $sel0==0$ and $sel1==1$, the output is equal to the $i10$ input. When $sel0==1$ and $sel1==1$, the output is equal to the $i11$ input.

6. Approximately how much time did you spend on this lab (including reading, planning, design, coding, debugging etc.)?

3 hours (most of the time was on reading through the instruction, building circuit didn't take that much time).