Lab 06 - Ones and Twos Complement

In this lab, you’ve learned about how the physics of semiconductors and circuits induce delay in the outputs, and the consequences thereof. You have also implemented a circuit that has a lot of delay and seen its effects on the simulation.

# Rubric

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| --- | --- | --- |
| **Item** | **Description** | **Value** |
| Summary Answers | Your writings about what you learned in this lab. | 25% |
| Question 1 | Your answers to the question | 25% |
| Question 2 | Your answers to the question | 25% |
| Question 3 | Your answers to the question | 25% |

# Lab Summary

We learned how to identify timings in between the turning on and the turning off of a switch and recognize how to change the delay to make the circuit more stable

# Lab Questions

## 1 - What defines how fast clock rates can get in a digital logic circuit?

The delay between the signal traveling through the switches defines the maximum clock rate.

## 2 - Why can delays cause glitches?

Delays lead to a logic circuit to be unstable, which in turn contributes to a change in the final output value

## 3 - Why does the timing simulation need the implementation details?

The timing simulation needs the details to verify the propagation delays.

# Code Submission

Upload a .zip of all your code or a public repository on GitHub.