1.1

Qualcomm - Machine Learning System Hardware

- Design a circuit which outputs the square of the input, you don't have a multiplier - simple only
- Design a circuit to calculate N/49 given N. (without using floating point arithmetic and you don't have a divider)

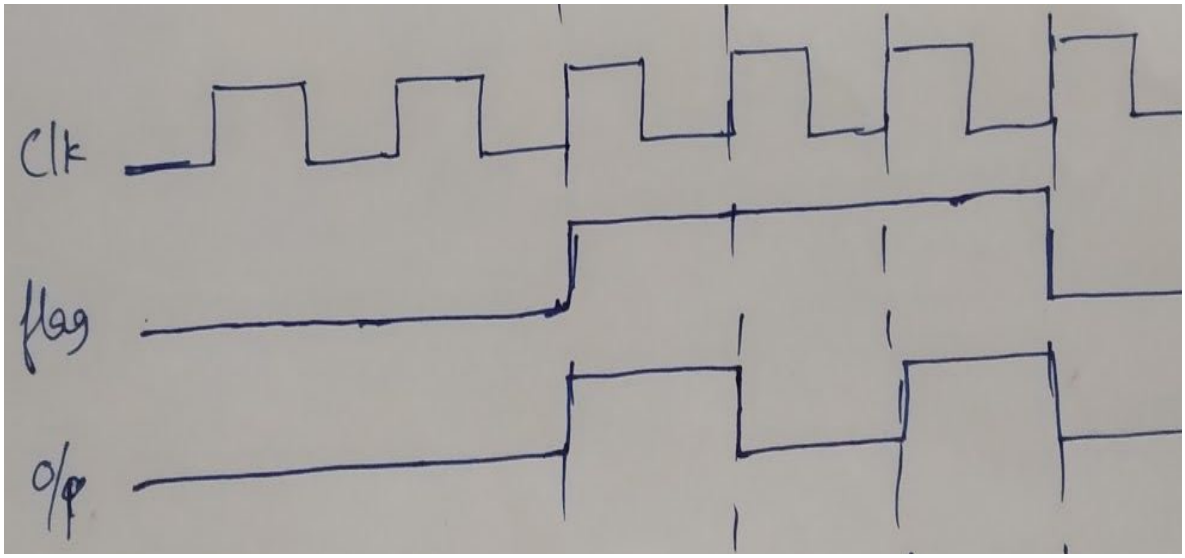
1.2

Cisco Hardware

- I said I did some stuff related to communication in my second year intern, so he asked some basic question -
    - What actually happens when you give a call to someone?
        - The answer he was looking for is that you have an analog to digital conversion in between and the input data rate should be equal to output data rate

- Y = 66 * X + 3
    - X is a 3 bit number, what is the minimum bits to store Y
    - What all operations are involved in this operation - Right shift, Addition, Multiplication

- Design a circuit which give the shown output given the clk and flag signal



Intel Hardware (1 Tech round + 1 HR + 1 Tech round)

- <u>1st Tech round</u>
    - Nothing in particular, everything based on resume. Maybe it's because I went early and the interviewer was still setting up so we just had a long conversation about intel and my resume

    - One question on setup time hold time, synchronizer, hashmaps
    - But apparently the same guy asked too many technical questions for others
- HR
    - What other companies did you apply for, which will you choose given the option?
    - What is your opinion on work life balance
    - Which one do you prefer frontend or backend

- 2nd Tech round after HR (No idea why they took this round - maybe they didn't want me to attend other companies)
    - My resume stated that I was working on a problem in physical design so we had a long conversation about that

Samsung Semiconductor Hardware

- == and === operator in verilog - went a little deep into this
- Can 2:1 Mux be used as a universal gate
- Puzzles
    - There is a well of depth 30m. There is a snail at the bottom. It climbs up at the rate of 1m/hr. After climbing every 3m it falls down by 1m instantly. What is the time it takes to get out of the well - pretty standard puzzle
    - There are 4 people 3 on one side of the wall and one on the other side. The wall is opaque. There are 4 hats, 2 black and 2 white. Each person wears a hat

X Y Z |wall| A

X can see which hats Y and Z are wearing.Y can see what Z is wearing. They all can escape if one person shouts what he is wearing. Who will be that person -- pretty standard question