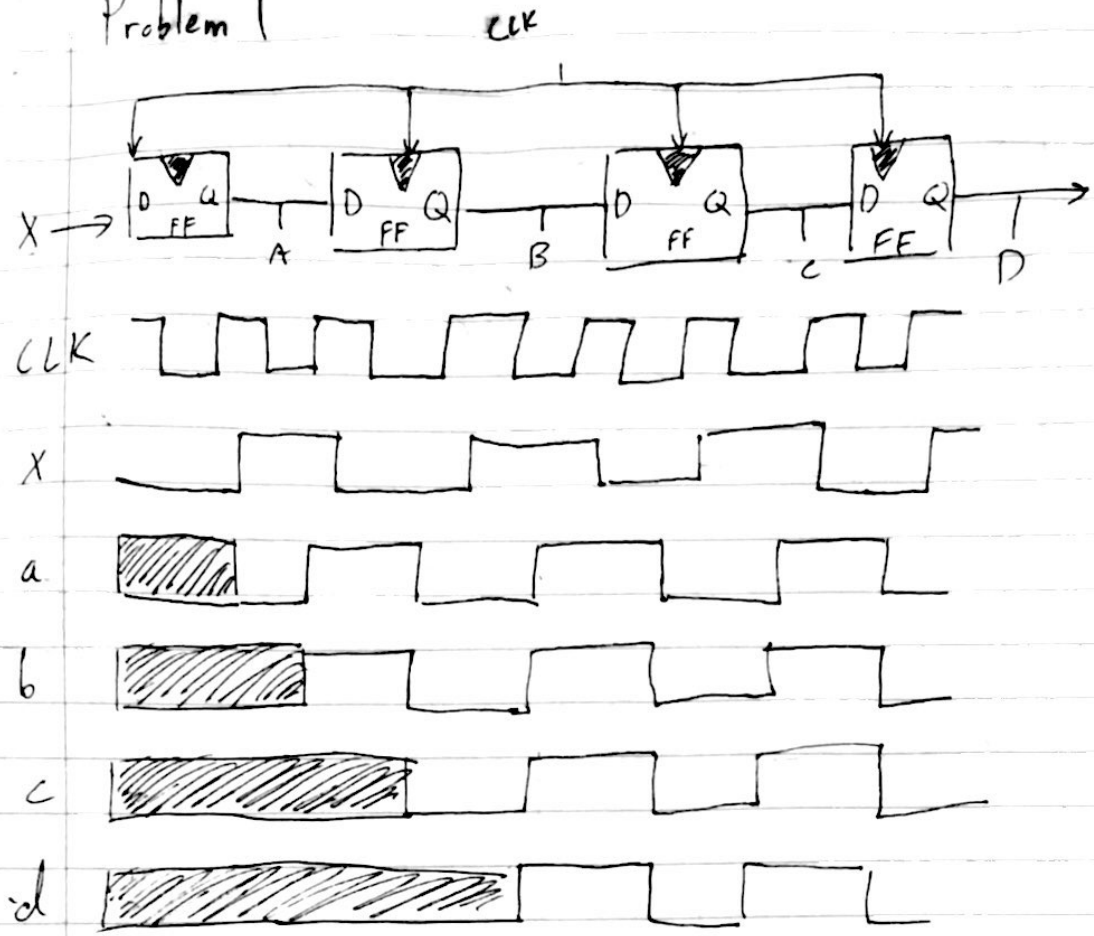
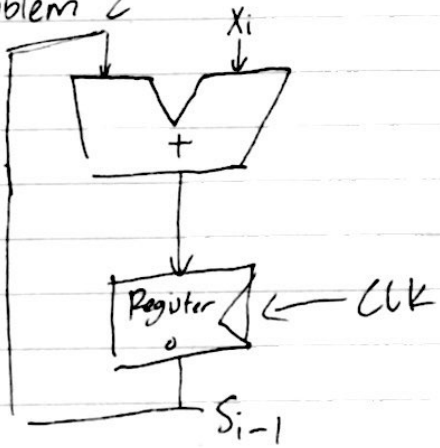
David Wang

Problem 1



Problem 2



Given

adder delay = 2ns

register setup = 1ns

CLK - tc-q = 1ns

$f = 400\ Mh_2$

Calculation

Total Delay = 2+1+1

= 4 ns

Period $T = \frac{1}{f} = \frac{1}{400 MH_2} = 25$

4 > 2.5 Error

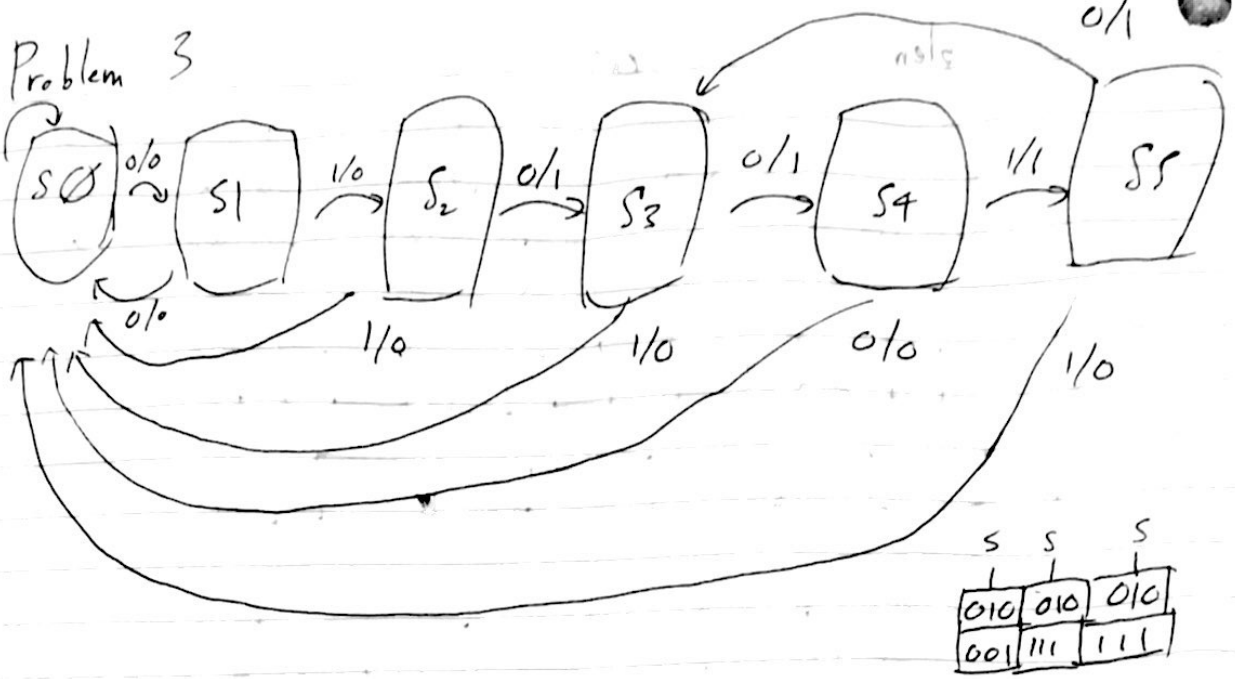
If period

T = 4 ns

4 = 4

So $f = \frac{1}{4} = 250\ Mh_2$

Problem 3



PS	Input	NS	Output
000	0	001	0
000	1	000	0
001	0	000	0
001	1	010	0
010	0	011	1
010	1	000	0
011	0	100	1
011	1	000	0
100	0	000	0
100	1	101	1
101	0	010	1
101	1	000	0