Boolean Expressions

Josh Newburn

$S_2^+ = T$

S_1^+

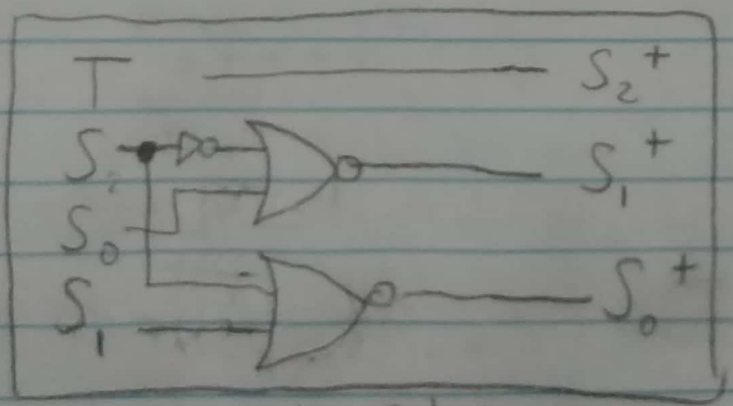
S_2S_1 \ S_0T	00	01	11	10
00	0	0	0	0
01	0	0	0	0
11	1	1	0	0
10	1	1	0	0

$S_1^+ = S_2S_0' = (S_2' + S_0)'$

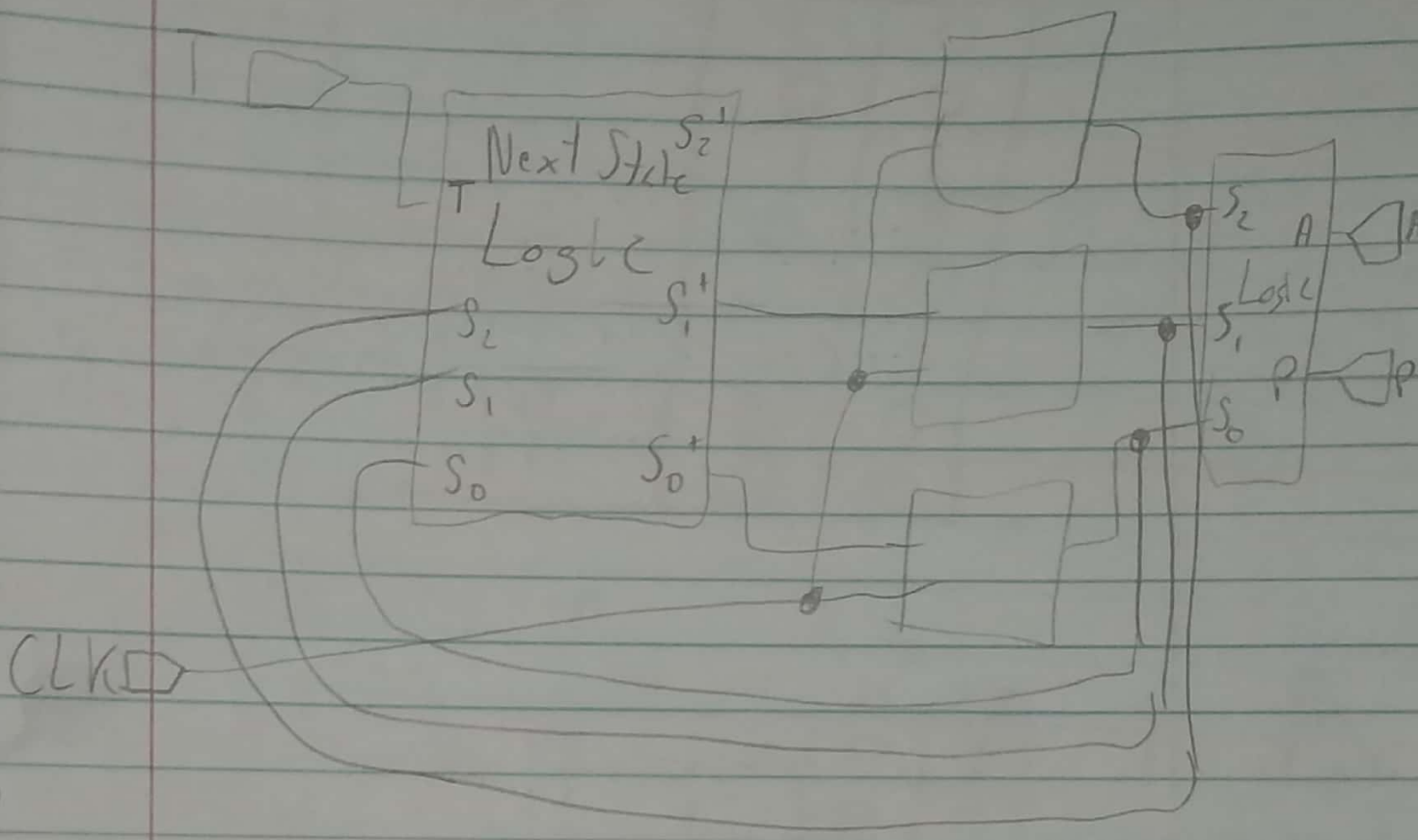
S_0^+

S_2S_1 \ S_0T	00	01	11	10
00	1	1	1	1
01	0	0	0	0
11	0	0	0	0
10	0	0	0	0

$S_0^+ = S_2'S_1' = (S_2 + S_1)'$



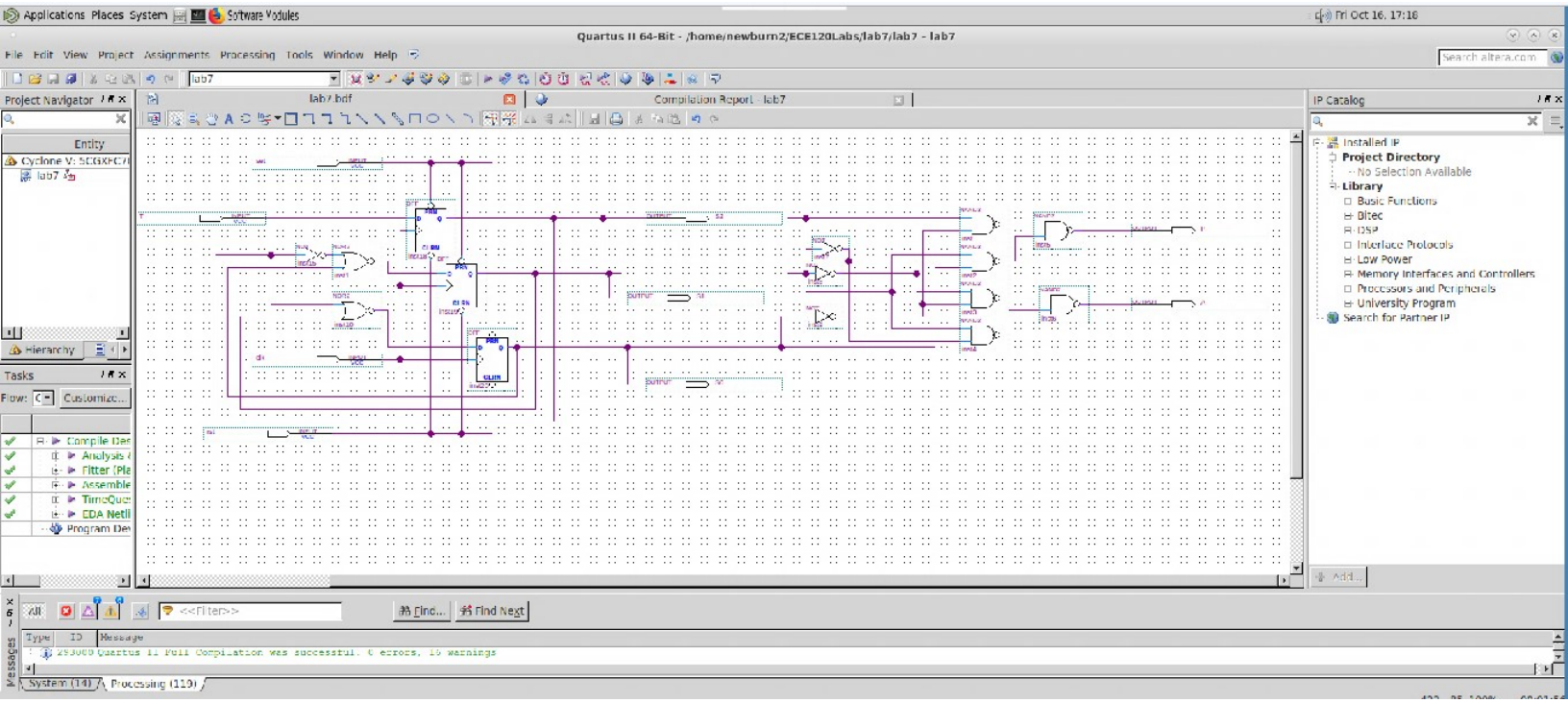
Next State Logic

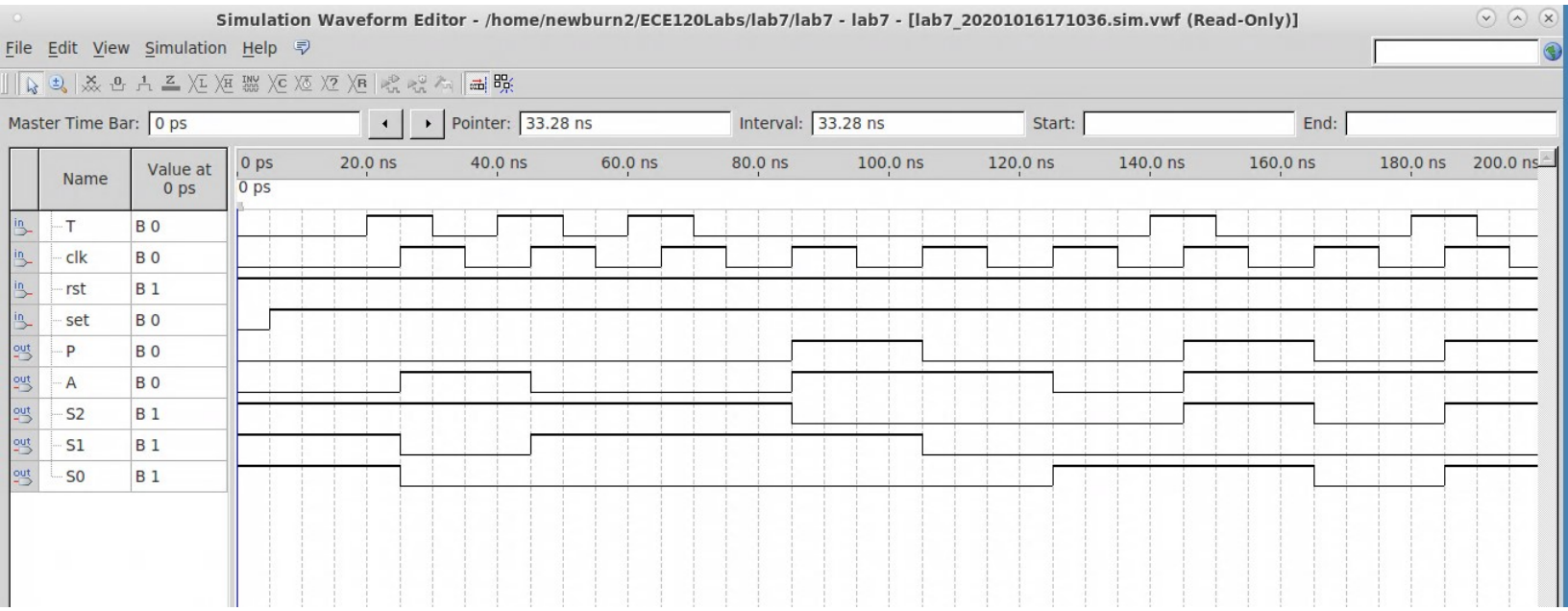


Next State Logic

S_2 S_1 S_0	T	S_2^+ S_1^+ S_0^+
0 0 0	0	0 0 1
0 0 1	0	0 0 1
0 1 0	0	0 0 0
0 1 1	0	0 0 0
1 0 0	0	0 1 0
1 0 1	0	0 0 0
1 1 0	0	0 1 0
1 1 1	0	0 0 0
0 0 0	1	1 0 1
0 0 1	1	1 0 1
0 1 0	1	1 0 0
0 1 1	1	1 0 0
1 0 0	1	1 1 0
1 0 1	1	1 0 0
1 1 0	1	1 1 0
1 1 1	1	1 0 0

$S_2^+ = T$


Applications Places System
Software Modules
Fri Oct 16, 17:16
Quartus II 64-Bit - /home/newburn2/ECE120Labs/lab7/lab7 - lab7
File Edit View Project Assignments Processing Tools Window Help
Project Navigator
Entity
lab7
Hierarchy
Tasks
lab7.bdf
Compilation Report - lab7
IP Catalog
Installed IP
Project Directory
No Selection Available
Library
Basic Functions
Bitec
DSP
Interface Protocols
Low Power
Memory Interfaces and Controllers
Processors and Peripherals
University Program
Search for Partner IP
Add...
Find...
Find Next
Type ID Message
293000 Quartus II Full Compilation was successful. 0 errors, 16 warnings
System (14)
Processing (110)


Simulation Waveform Editor - /home/newburn2/ECE120Labs/lab7/lab7 - lab7 - [lab7_20201016171036.sim.vwf (Read-Only)]
File Edit View Simulation Help
Master Time Bar: 0 ps
Pointer: 33.28 ns
Interval: 33.28 ns
Start:
End:
Name
Value at 0 ps
T B 0
clk B 0
rst B 1
set B 0
P B 0
A B 0
S2 B 1
S1 B 1
S0 B 1
0 ps
20.0 ns
40.0 ns
60.0 ns
80.0 ns
100.0 ns
120.0 ns
140.0 ns
160.0 ns
180.0 ns
200.0 ns
0 ps