Department of Electrical and Computer Engineering

ECE 3300L Section 1

Lab 7 – 16-bit Barrel Shifter / Rotator & 4-Digit 7-Segment Display
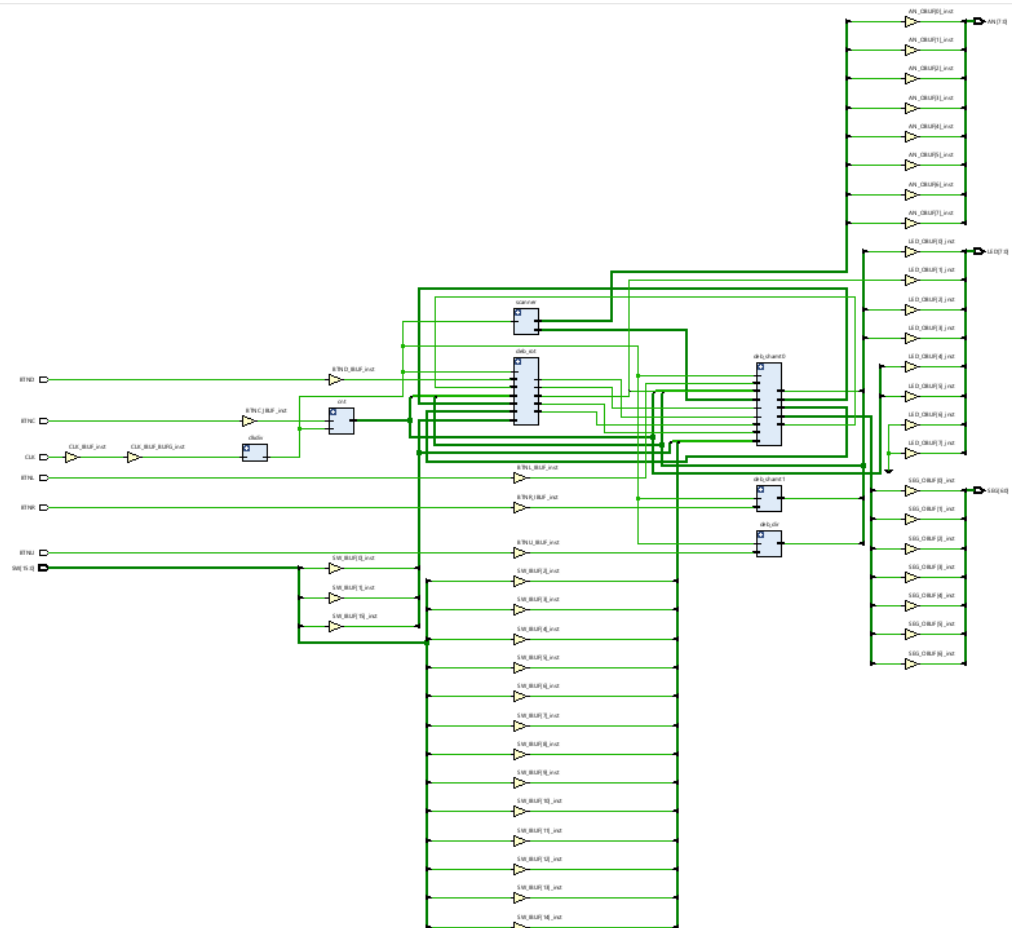
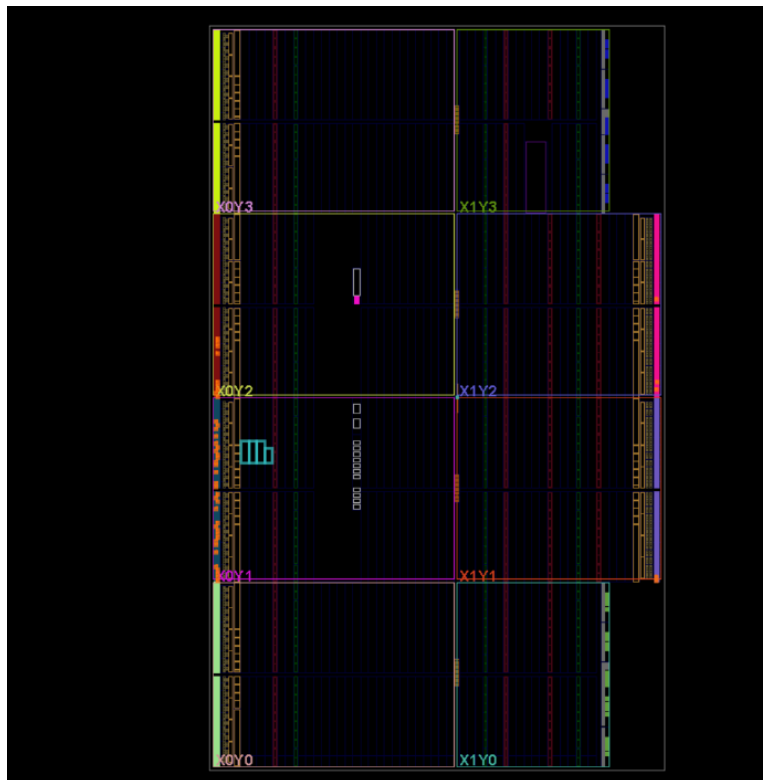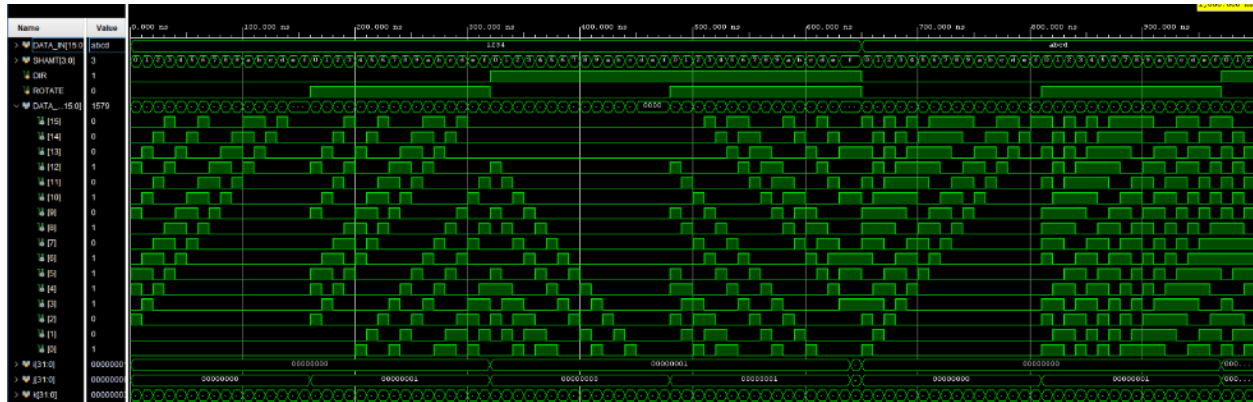Bryan Liu ID: 016695471

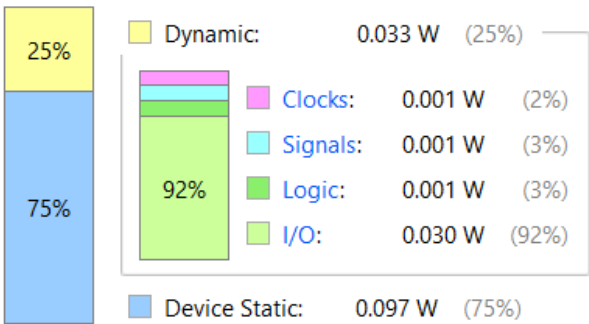Jaden Yeremenko ID: 016414528

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Design:

Schematic:

Simulation:

Implementation:

Power analysis from implemented netlist. Activity derived from constraints files, simulation files or vectorless analysis.

Total On-Chip Power:	**0.13 W**
Design Power Budget:	**Not Specified**
Process:	typical
Power Budget Margin:	**N/A**
Junction Temperature:	**25.6°C**
Thermal Margin:	59.4°C (12.9 W)

25%

75%

Dynamic:	0.033 W	(25%)
Clocks:	0.001 W	(2%)
Signals:	0.001 W	(3%)
Logic:	0.001 W	(3%)
I/O:	0.030 W	(92%)

92%

Device Static:	0.097 W	(75%)

Setup		Hold		Pulse Width	
Worst Negative Slack (WNS):	6.479 ns	Worst Hold Slack (WHS):	0.249 ns	Worst Pulse Width Slack (WPWS):	4.500 ns
Total Negative Slack (TNS):	0.000 ns	Total Hold Slack (THS):	0.000 ns	Total Pulse Width Negative Slack (TPWS):	0.000 ns
Number of Failing Endpoints:	0	Number of Failing Endpoints:	0	Number of Failing Endpoints:	0
Total Number of Endpoints:	35	Total Number of Endpoints:	35	Total Number of Endpoints:	19

All user specified timing constraints are met.

Contributions:

Bryan Liu: Coding main, Simulation, some testing: 50%

Jaden Yeremenko: Testbench Coding, Implementation, some testing: 50%