



Credit Hours System
CMPN111 – Logic Design
2



Cairo University
Faculty of Engineering

Assignment (2)

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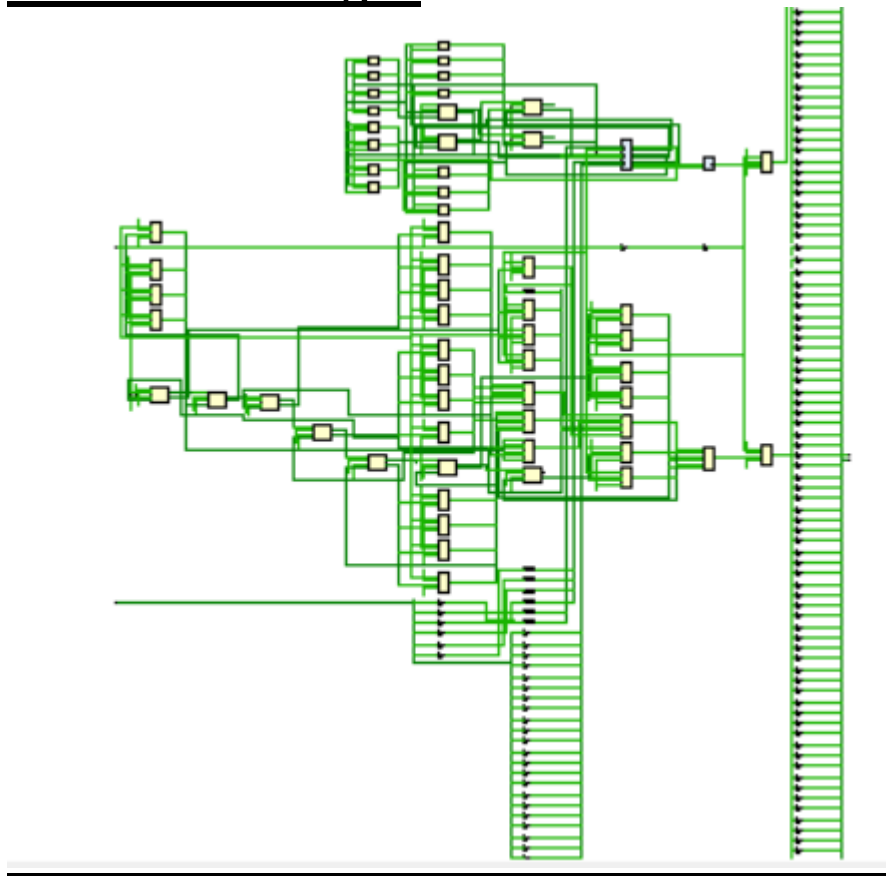
Submission Date: 14.4.2020

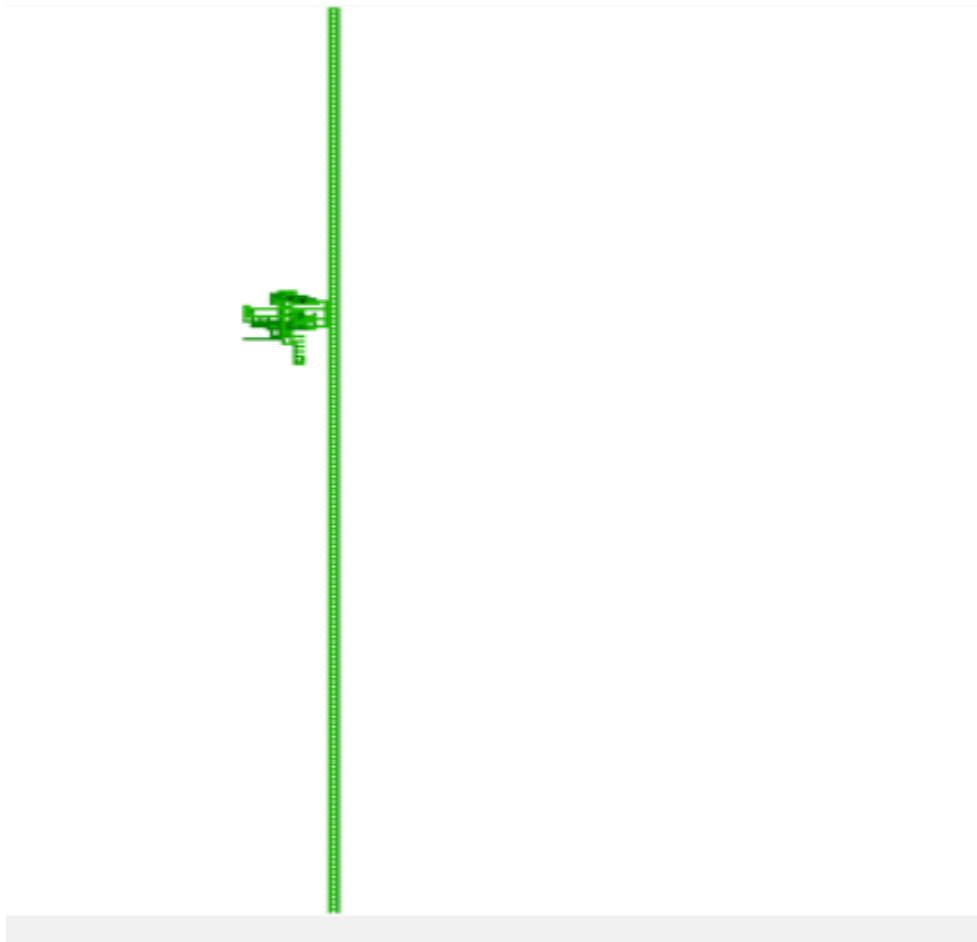
Single Layer

● Utilization Report:

Site Type	Used	Fixed	Available	Util%
Slice LUTs*	7590	0	53200	14.27
LUT as Logic	7590	0	53200	14.27
LUT as Memory	0	0	17400	0.00
Slice Registers	1019	0	106400	0.96
Register as Flip Flop	1019	0	106400	0.96
Register as Latch	0	0	106400	0.00
F7 Muxes	0	0	26600	0.00
F8 Muxes	0	0	13300	0.00

● Schematic Design:



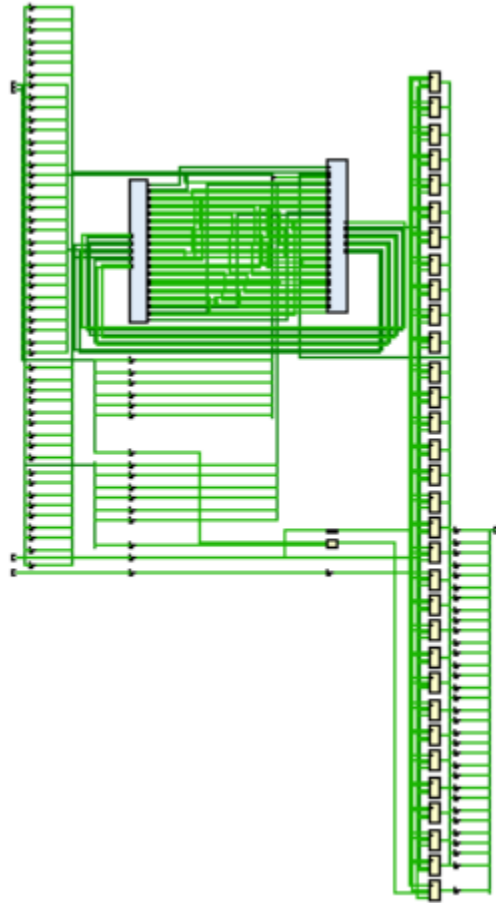


Single Layer

- *Utilization Report:*

0	+	-----	+	-----	+	-----	+	-----	+
1		Site Type		Used		Fixed		Available	Util%
2	+	-----	+	-----	+	-----	+	-----	+
3		Slice LUTs*		244		0		53200	0.46
4		LUT as Logic		244		0		53200	0.46
5		LUT as Memory		0		0		17400	0.00
6		Slice Registers		32		0		106400	0.03
7		Register as Flip Flop		32		0		106400	0.03
8		Register as Latch		0		0		106400	0.00
9		F7 Muxes		0		0		26600	0.00
0		F8 Muxes		0		0		13300	0.00
1	+	-----	+	-----	+	-----	+	-----	+

● Schematic Design:

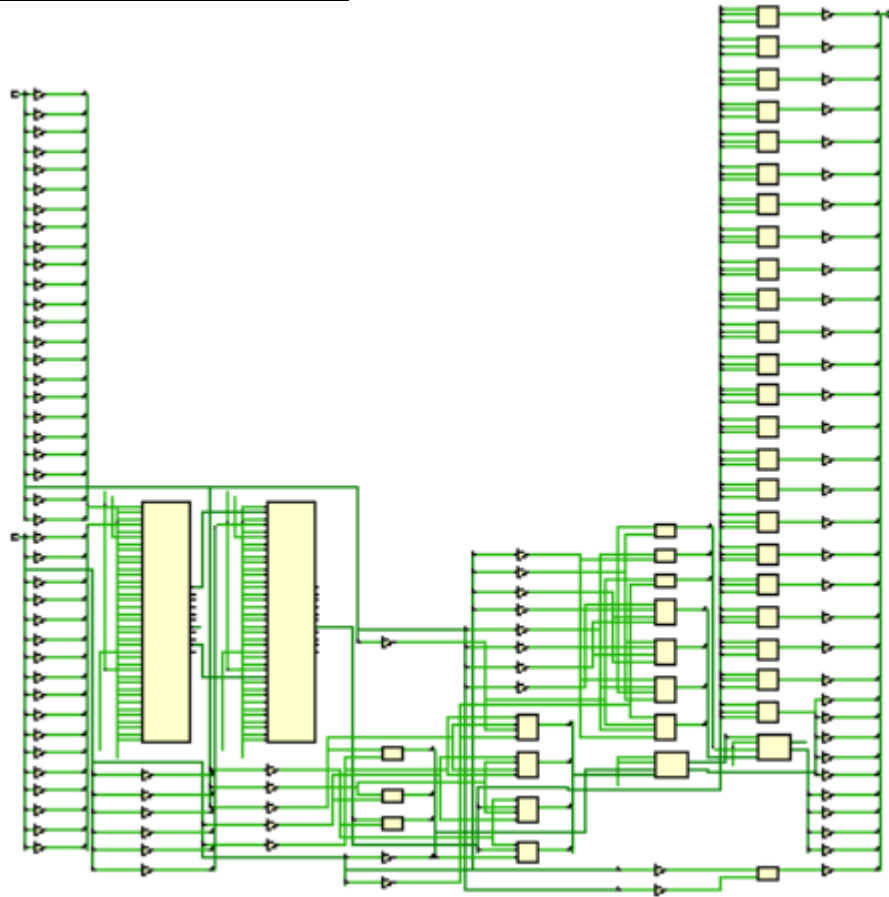


Multiplier

● Utilization report:

Site Type	Used	Fixed	Available	Util%
Slice LUTs*	21	0	53200	0.04
LUT as Logic	21	0	53200	0.04
LUT as Memory	0	0	17400	0.00
Slice Registers	0	0	106400	0.00
Register as Flip Flop	0	0	106400	0.00
Register as Latch	0	0	106400	0.00
F7 Muxes	0	0	26600	0.00
F8 Muxes	0	0	13300	0.00

- **Schematic Design:**

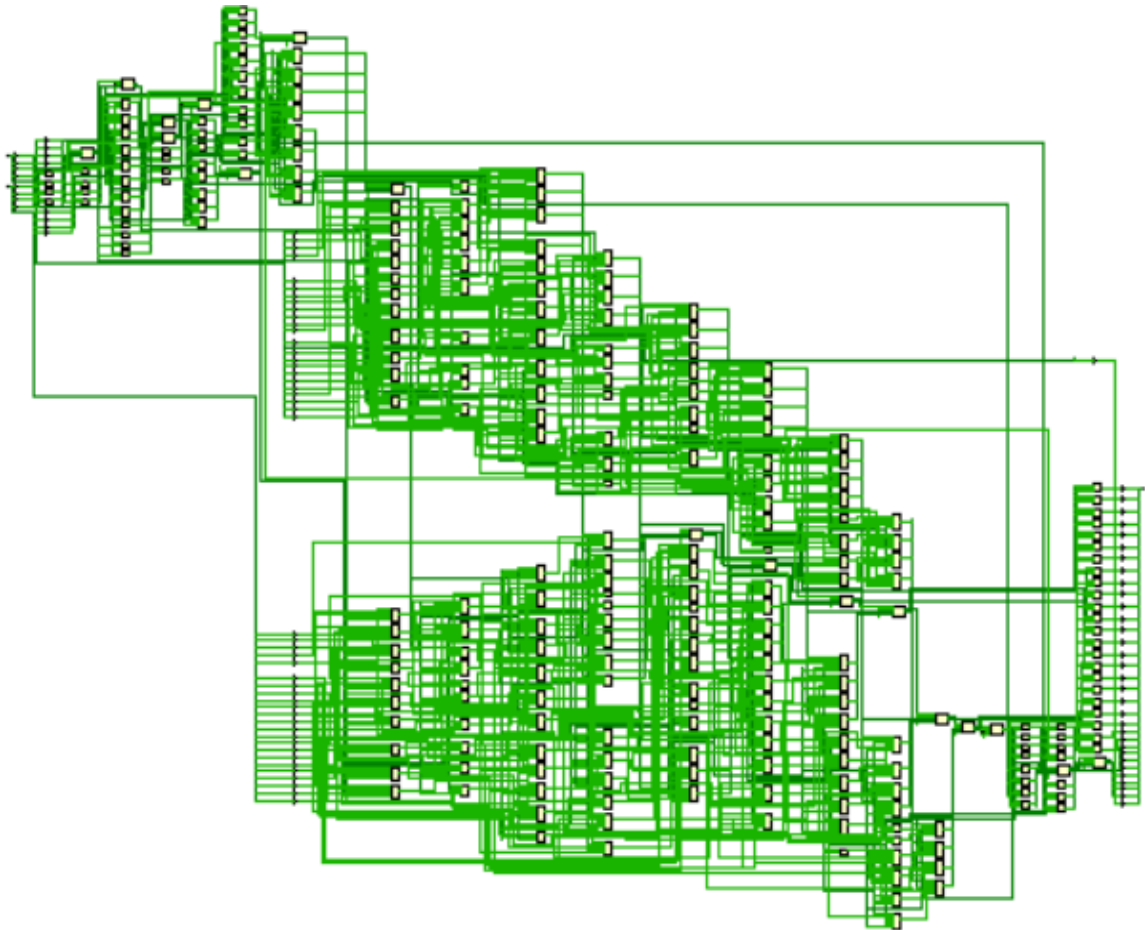


Adder

- **Utilization Report:**

Site Type	Used	Fixed	Available	Util%
Slice LUTs*	204	0	53200	0.38
LUT as Logic	204	0	53200	0.38
LUT as Memory	0	0	17400	0.00
Slice Registers	0	0	106400	0.00
Register as Flip Flop	0	0	106400	0.00
Register as Latch	0	0	106400	0.00
F7 Muxes	0	0	26600	0.00
F8 Muxes	0	0	13300	0.00

- **Schematic Design:**



Pipeline

PipeLined 3-stage

