Student Names: Ahmet Emir KOCAAĞA, Mete Han KURT

Student IDs: 2017400276,2016400339
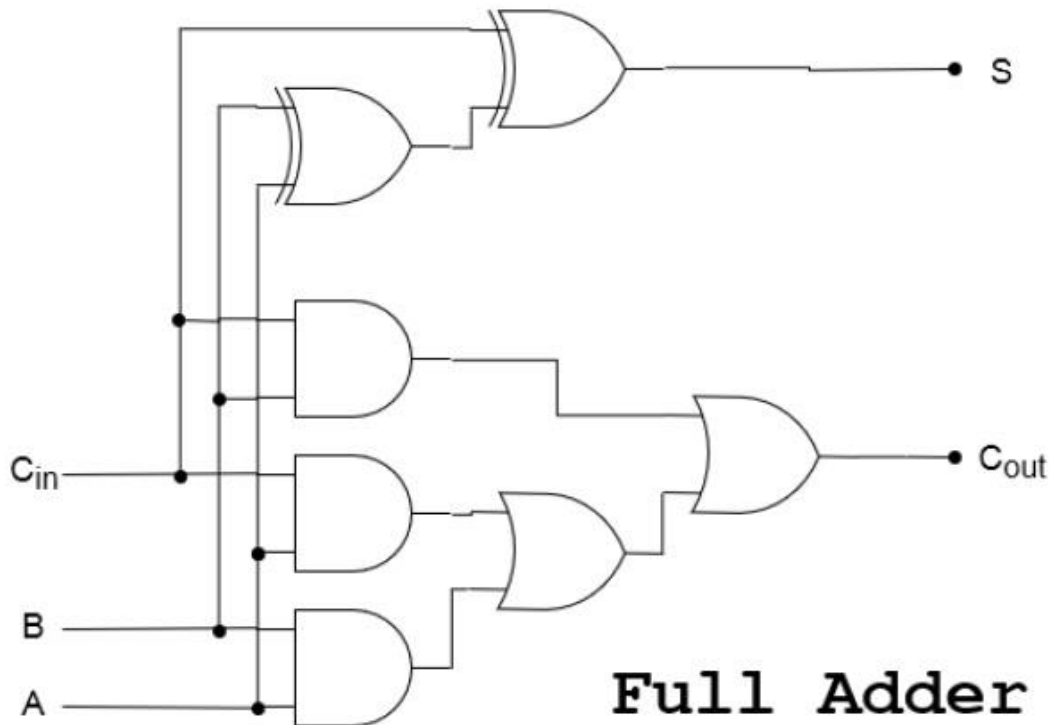
Session ID: FF34

Group ID: 1

CMPE 240 Experiment 6 Preliminary Work

Step 1: **Design circuits with minimum number of components for each function of the ALU (This section should consist four circuits for each functionality of ALU) Show internal representation of each component as well. For example if you are using a full adder, draw inside of it as well. If you are using a component more than once, it is enough to draw inside of it once. You can represent repeated ones as black boxes providing their input/output labels clearly.**

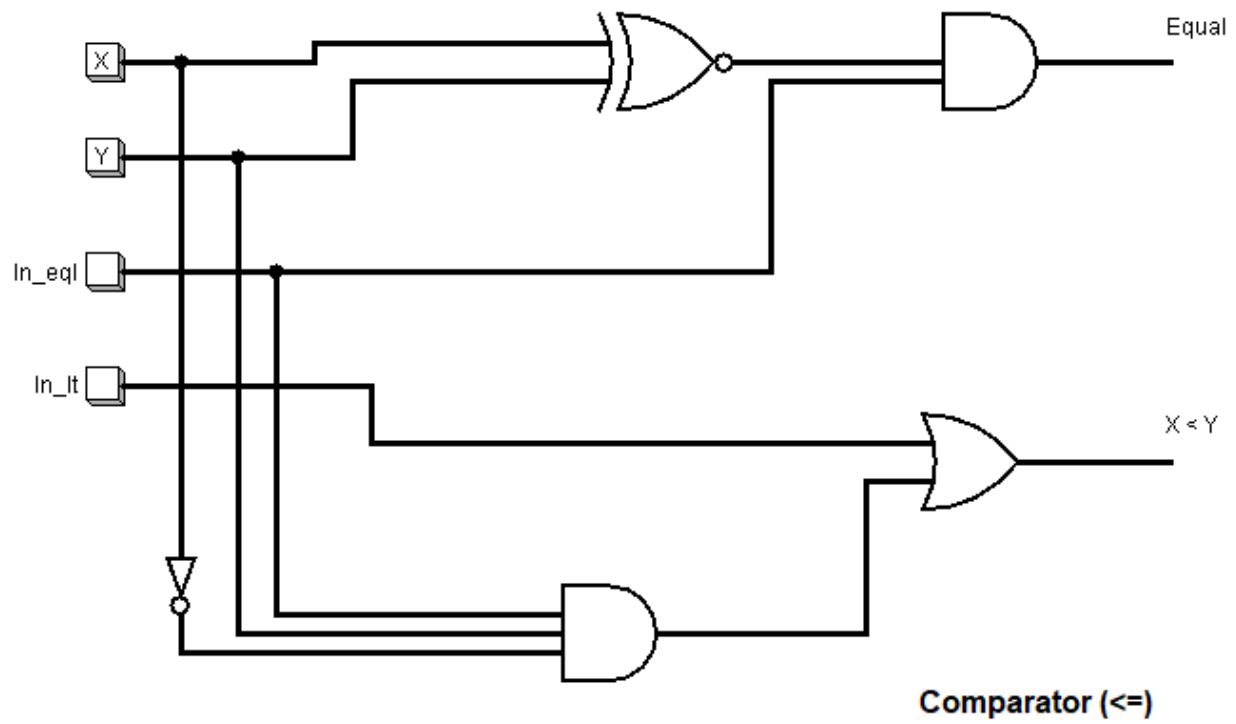***Full Adder Representation (1 -bit)***
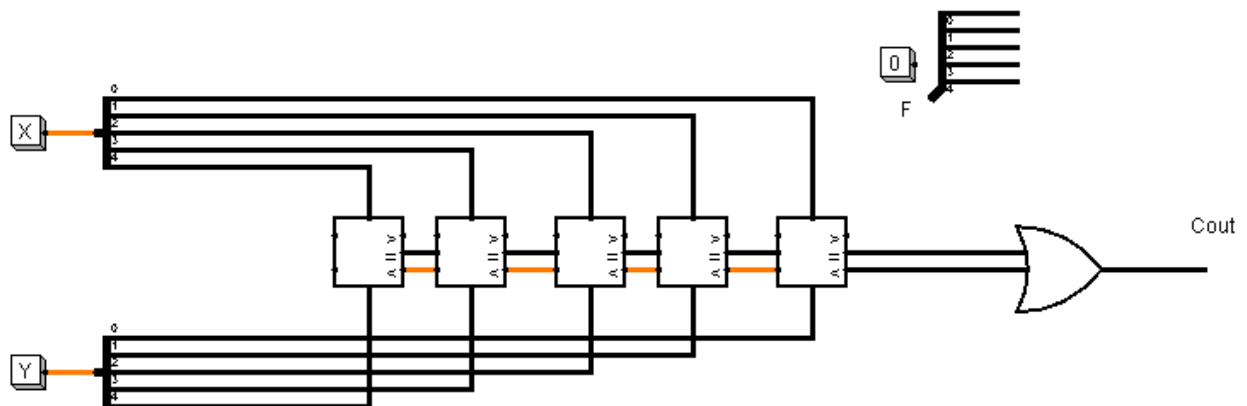
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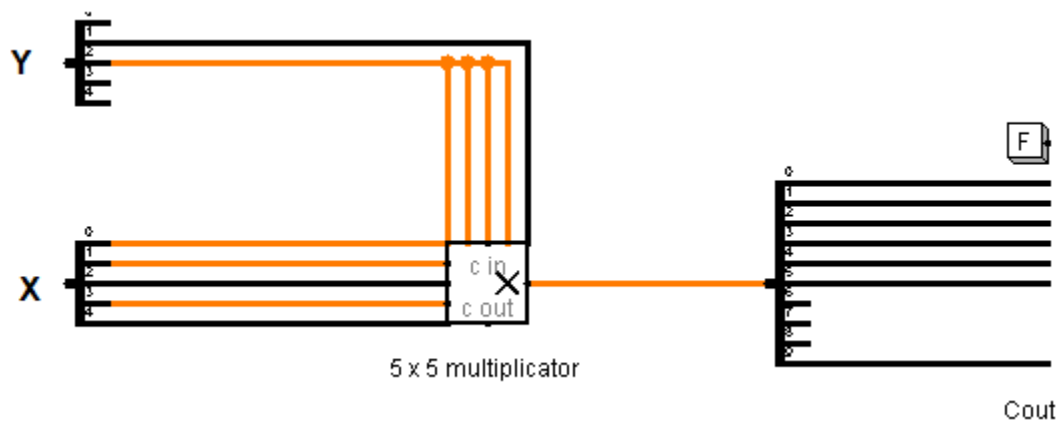Comparator (<=)

a) *Function 00 (State 00)*

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b) *Function 01 (State 01)*

Y

X

5 x 5 multiplicator

c in

c out

F

Cout

Inside of a multiplicator is shown in 10 state.

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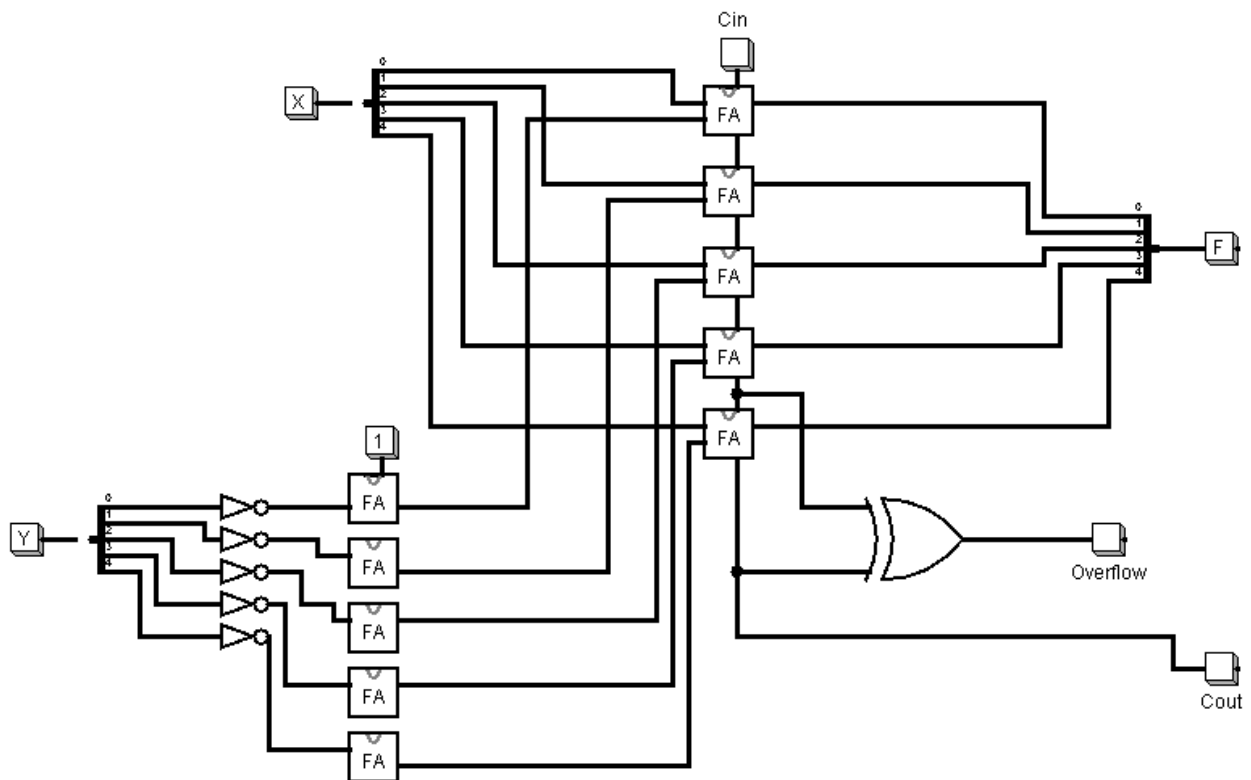Group ID: 1

c) Function 10 (State 10)

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d) *Function 11 (State 11)*

Step 2: Merge all operations with select inputs and organize outputs, Try to minimize your implementation by using repetitions, draw final circuit as the minimized final design of the ALU.

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