Assignment 2

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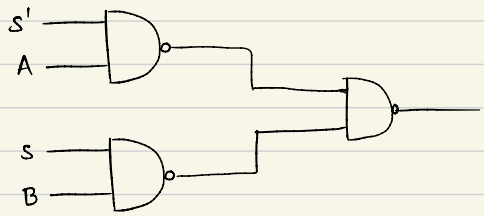
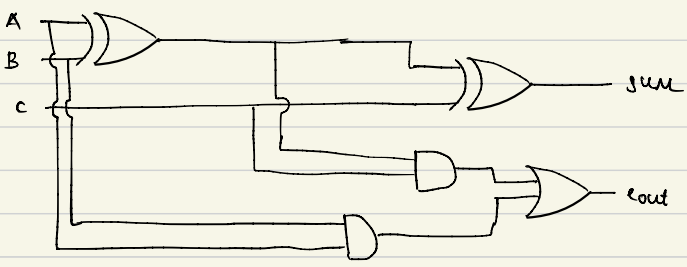
Q Design an adder substractor 8 bit circuit using any 2-input gates and count the number of gates required & the delay of the circuit.

The basic circuit of then the fall circuit:

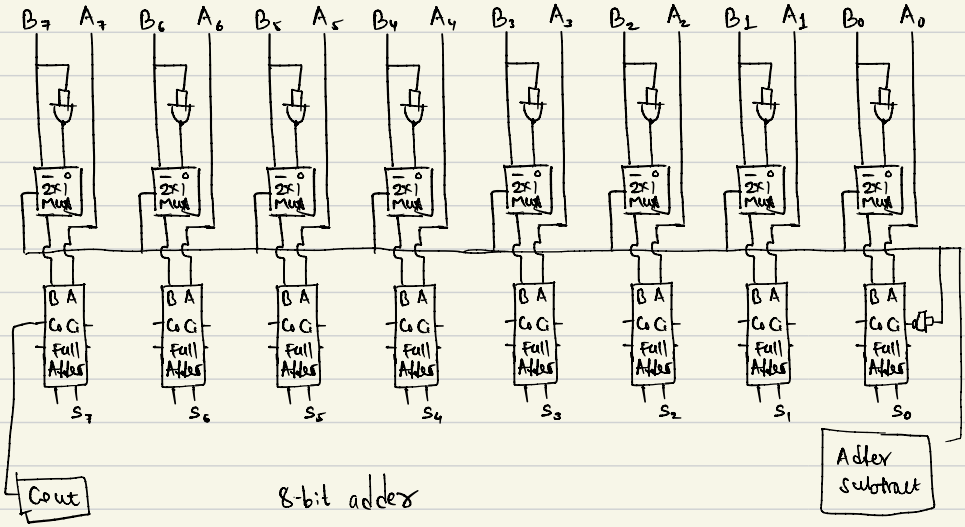


2×1 MUX



1-bit full adder

Number of gates in a 2×1 multiplexer = 3
Number of gates in a 1-bit full adder = 5



8-bit adder

Total Number of Gates = $9 + 8 \times 3 + 8 \times 5 = 73$.