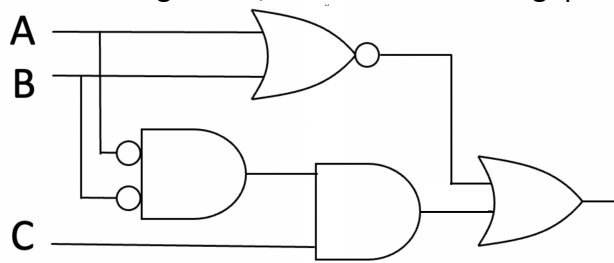


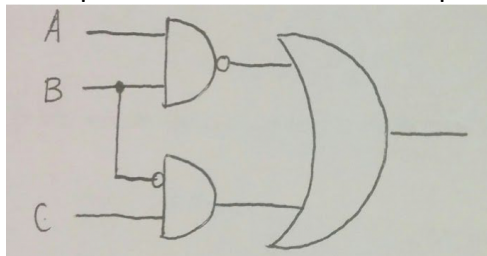
CS240 Supplemental Practice – Gates

1) For the following circuit, answer the following questions



- Write out its truth table:
- What is the equivalent, unsimplified Boolean expression? In other words, what is the Boolean algebra translation of the circuit above?
- What is the sum of products expression of the truth table?
- Simplify your answer from part b using Boolean algebra laws. As a sanity check, you should be able to simplify your expression from part c and arrive at the same answer.

Extra practice: answer the same questions above with this circuit



2) For the Boolean expression: $(A'A + (BC')')' + B$

a. Draw the unsimplified circuit:

b. Write out its truth table:

c. Simplify or shorten the expression step-by-step using Boolean algebra laws, and write the corresponding laws next to each step

Extra practice: answer the questions above with this Boolean algebra expression $(A + ABC')B$