# Introduction to Digital Logic

- Boolean Algebra Properties
- De Morgan's Law
- Equations to Circuits
- Sum of Products

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# Review Questions

- Using properties from boolean algebra, prove the following:
  - A + A'B = A + B
  - A + AB = A

- Construct the duals of the above equations. Do they hold true as well?

# Review Questions

- Use boolean algebra to prove De Morgan's Law.
- Use boolean algebra to prove the consensus theorem.
- Use boolean algebra to prove that De Morgan's Law will also work for 3 variables.

# Review Questions

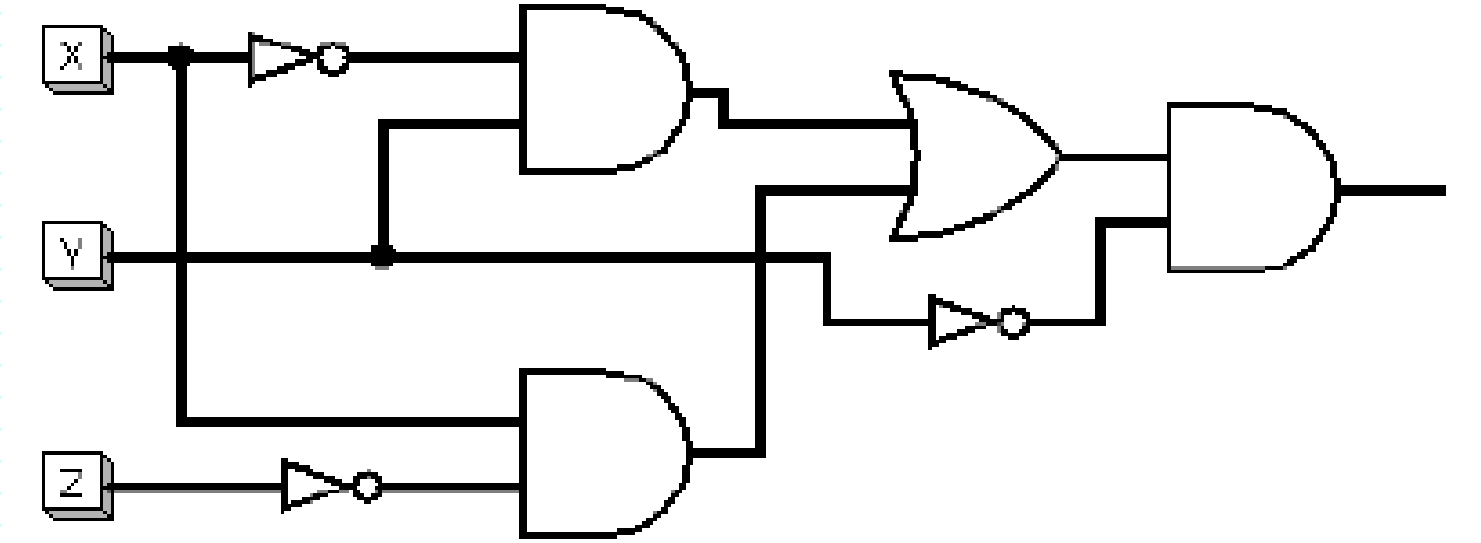
- Construct a circuit for the expression:

  z = (a'c + b'c + a)d + ac'

- Convert the above expression to sum of products form, then create the circuit again.
  - Do you see any ways to simplify either equation?

# Review Questions

- Come up with a boolean expression for the following circuit:




- Is your expression in sum of products form? If not, convert it to sum of products and redraw the circuit.

# Lab 1