

CAO: Lecture 3

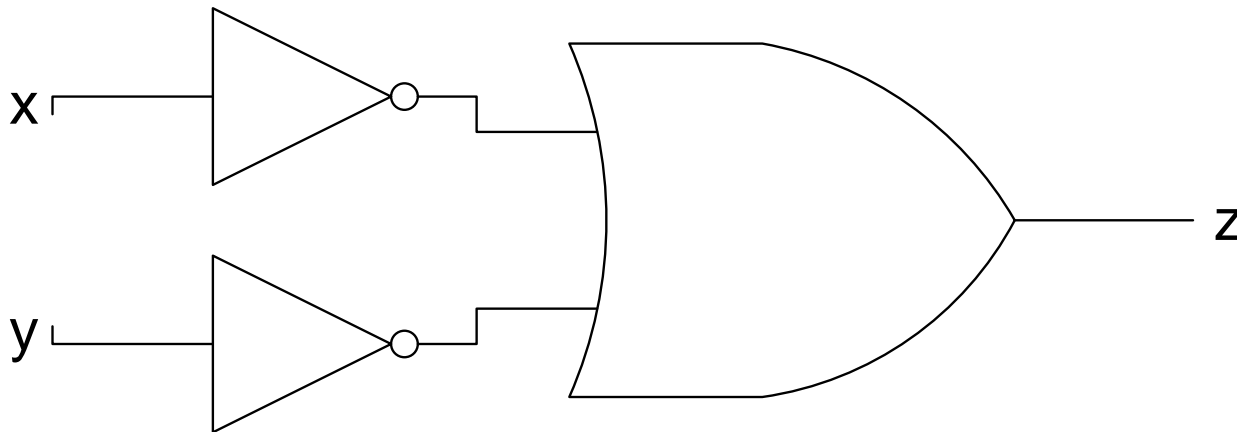
Logic Gates Examples

Topics Covered

- Example 1: Circuit expression
- Example 2: Circuit expression
- Example 3: Circuit expression
- Example 4: Circuit expression

Example – Circuit → Expression

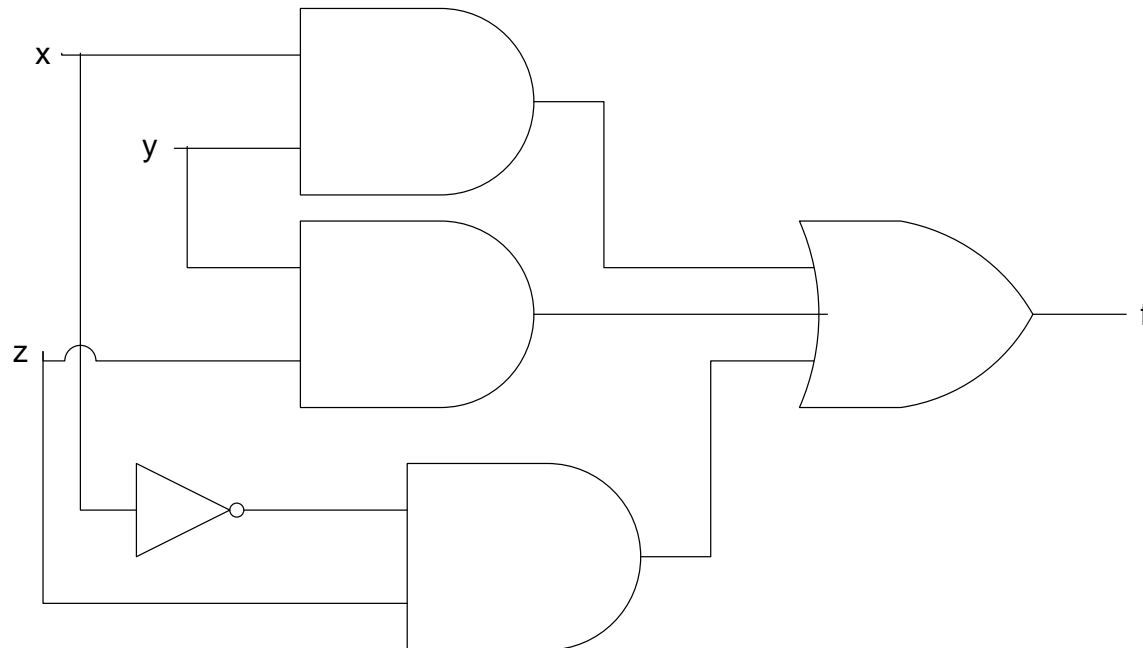
- What Boolean function does the following digital circuit model?



- Answer: $\sim x + \sim y = z$

Example – Circuit → Expression

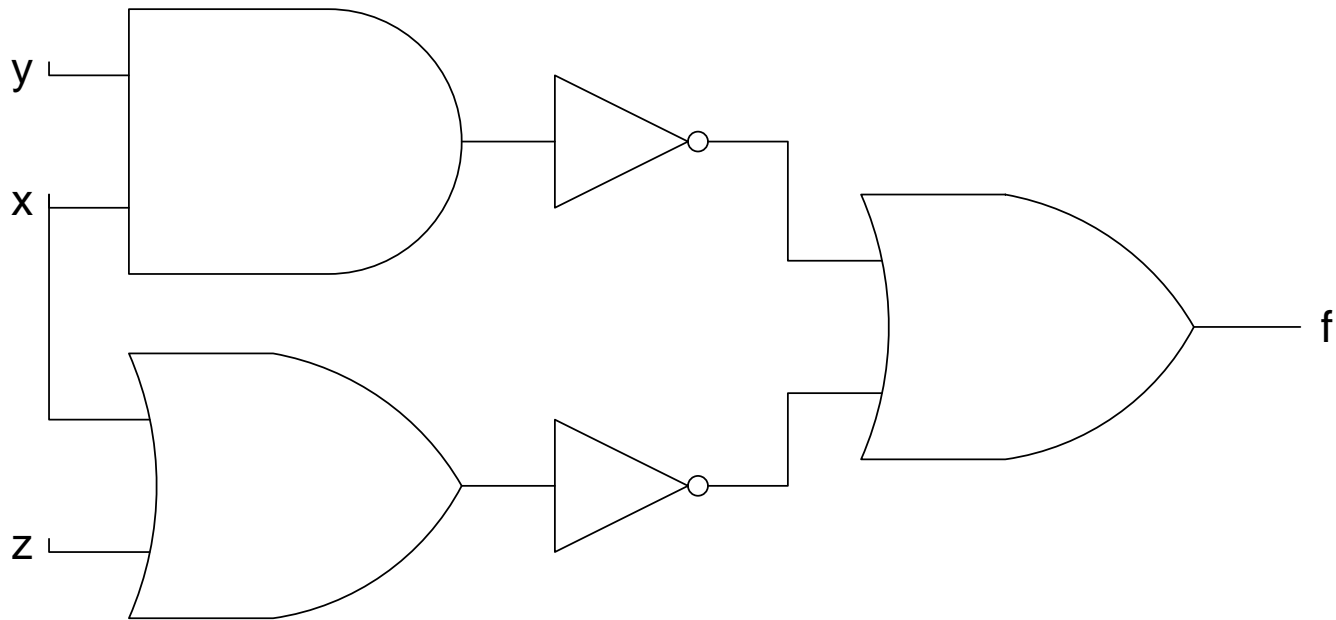
- What Boolean function does the following digital circuit model?



- Answer: $f = xy + yz + \sim xz$

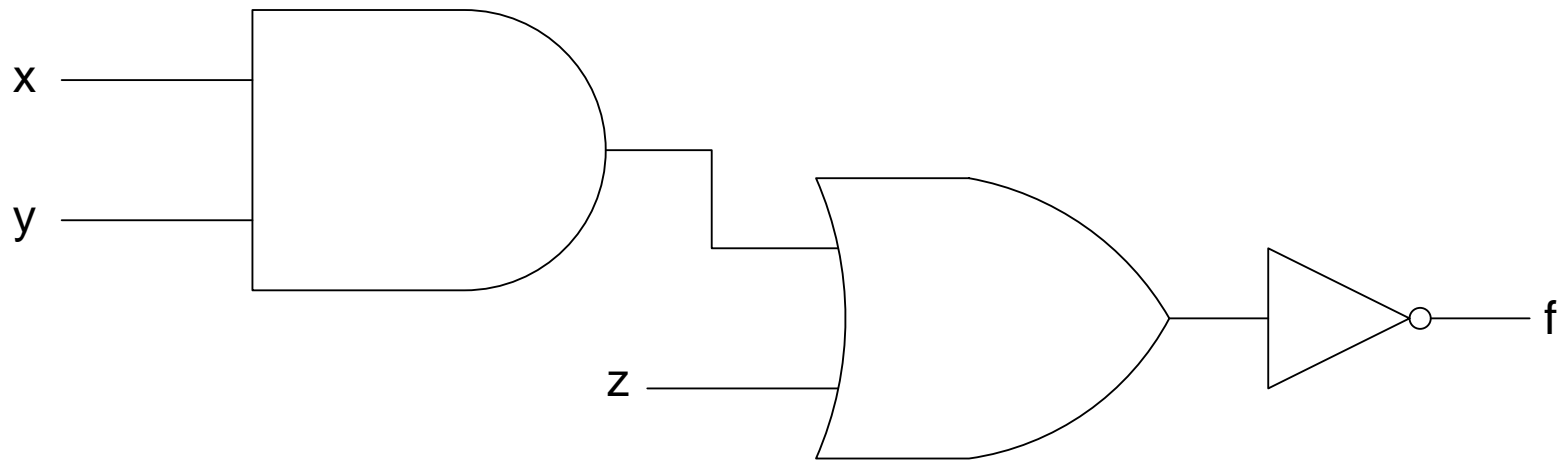
Solve

- What Boolean function does the following digital circuit model?



Example – Expression \rightarrow Circuit

- Draw the logic circuit that corresponds to the following Boolean expression: $f = \sim(xy+z)$



Example – Expression \rightarrow Circuit

- Draw the logic circuit that corresponds to the following Boolean expression: $f = \sim(x+z) \cdot (x+y)$

