

CIS 301:

Logical Foundations of Programming

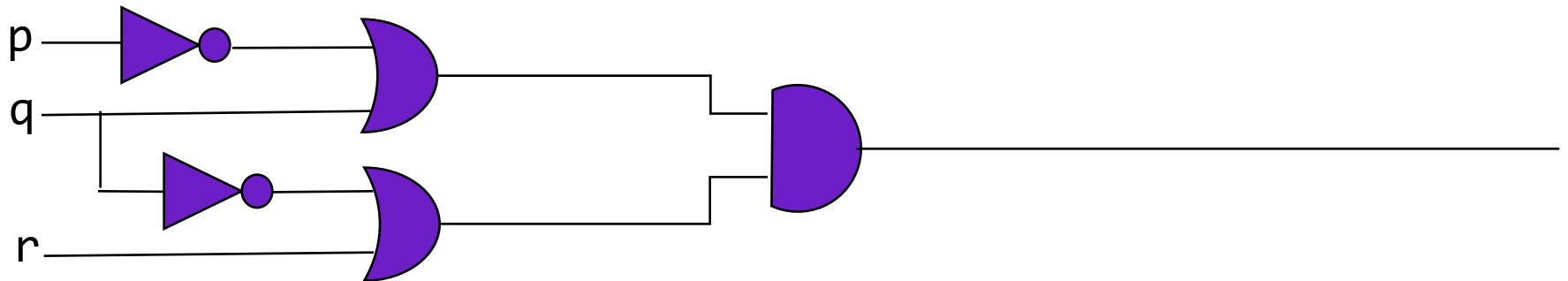
Module: Intro

Exercise: Circuits and Truth Tables

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Exercise

1. Create a truth table and indicates whether it is tautology, contradictory, or contingent: $p \wedge q \vee \neg p \rightarrow \neg q$
2. Draw the corresponding circuit for: $\neg(p \wedge q) \vee r$
3. Write the corresponding proposition:



Solution for 1

*

p	q		$((p \wedge q) \vee \neg p) \rightarrow \neg q$						

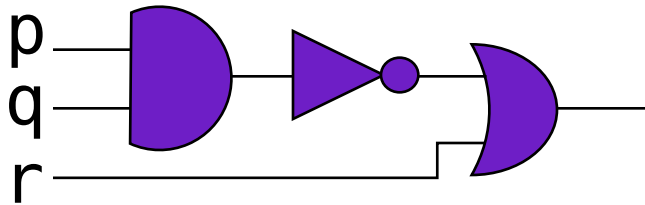
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Contingent

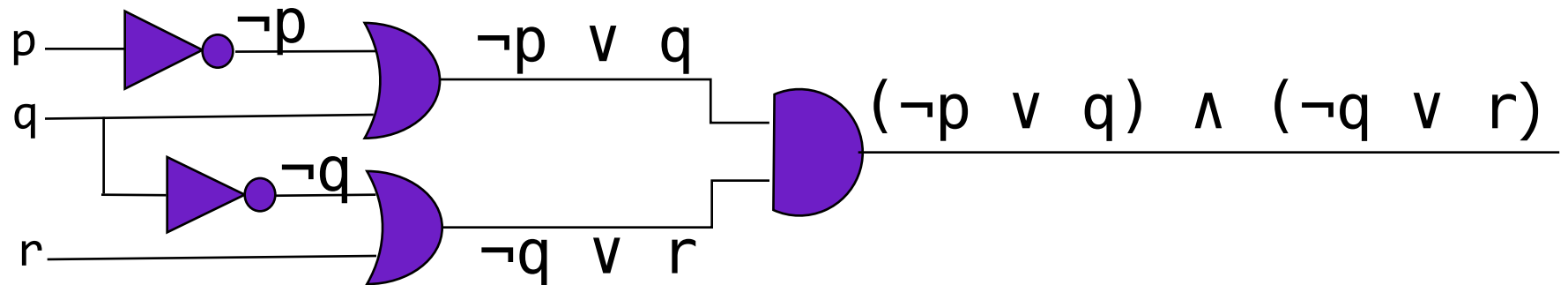
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- F: [T T] [F T]

Solution for 2

$$\neg(p \wedge q) \vee r$$



Solution for 3



$$(\neg p \vee q) \wedge (\neg q \vee r)$$