2.2 More Methods of Proof 更多的证明方法

- **Proof by Contradiction** 反证法
- **Proof by Contrapositive** 逆否证明法
- **Proof by Cases** 分情况证明法
- **Proofs of Equivalence** 等价证明法
- **Existence Proofs** 存在性证明法

2.3 Resolution Proofs 消解证明 / 归结证明

Due to J. A. Robinson (1965)

If $p \vee q$ and $\neg p \vee r$ are both true, then $q \vee r$ is true.

2.3 Resolution Proofs 消解证明 / 归结证明

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If $p \vee q$ and $\neg p \vee r$ are both true, then $q \vee r$ is true.

Special Case of Rule

If $p \vee q$ and $\neg p$ are both true, then q is true.
If $\neg p \vee q$ and p are both true, then q is true.

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Due to J. A. Robinson (1965)

If $p \vee q$ and $\neg p \vee r$ are both true, then $q \vee r$ is true.

Example 2.3.5 Prove the following using resolution：

$$\begin{array}{ll} 1, & a \\ 2, & \neg a \vee c \\ 3, & \neg c \vee d \\ \hline \therefore & d \end{array}$$