

Lecture 4. Logical Operators — Negation, Conjunction & Disjunction (逻辑运算符——否定、合取和析取)

There are 6 logical operators that we will focus on:

1. Negation
2. Conjunction
3. Disjunction
4. Exclusive OR
5. Implication
6. Biconditional

Negation

Let p be a proposition. $\neg p$ is called negation of p which simply states that
"It is not the case that p "
if p is true then $\neg p$ is false. if p is false then $\neg p$ is true.

Conjunction

Let p and q be two propositions. Conjunction of p and q is denoted by $p \wedge q$
When both p and q are true then only the compound proposition $p \wedge q$ is true.

Disjunction

Let p and q be propositions. Disjunction of p and q is denoted by $p \vee q$
When both p and q are false then only the compound proposition $p \vee q$ is false.

p	q	$p \vee q$
T	T	T
T	F	T
F	T	T
F	F	F