Related Statements Definitions

Conditional Statement

Implication: An implication is two statements which are linked together by if-then. The 'if' part is called the hypothesis and the 'then' part is called the conclusion.

Example: If it snows, then we will go home. ($S \rightarrow H$)

Converse: The converse of an implication is obtained by interchanging the hypothesis and the conclusion.

Example: If we go home, then it will snow. ($H \rightarrow S$)

Inverse: The inverse of an implication is obtained by negating both the hypothesis and the conclusion.

Example: If it doesn't snow, then we won't go home. ($\sim S \rightarrow \sim H$)

Contrapositive: The contrapositive of an implication is obtained by negating both parts and interchanging them.

Example: If we won't go home, then it's not snowing. ($\sim H \rightarrow \sim S$)

Equivalent: Two statements are said to be equivalent if they have the same truth value. This can be determined by using truth tables. The symbol for equivalent in logic is $\leftrightarrow$.

Biconditional Statement: A statement that contains the phrase "if and only if." Writing a biconditional statement is equivalent to writing a conditional statement *and* its converse.