# 2.1 The Logic of Compound Statements

**Argument** – a sequence of statements aimed at demonstrating the truth of an assertion

**Conclusion** – the statement at the end of an argument

**Premises** – statements that precede a conclusion

**Statement** – a sequence that is true or false but not both

* Ex: x + 2 = 3 is not a statement

**Logical Equivalence** – a sentence that is true or false but not both

**Tautology** – a statement form that is always true

**Contradiction** – a statement form that is always false

**Conjunction** – and **Disjunction** – or

|  |  |
| --- | --- |
| ~p | “not p” |
| p Λ q | “p and q” |
| p V q | “p or q” |
| ⸫ | “Therefore” |
| p ≡ q | “p is logically equivalent to q” |

Note: ~ has precedence over Λ and V, meaning that ~p Λ q = (~p) Λ q