The Logic Book (6e), p. 14
Chapter 1 Glossary

ARGUMENT: An argument is a set of two or more sentences, one of which is designated as the conclusion and the others as the premises.

LOGICAL VALIDITY: An argument is *logically valid* if and only if it is not possible for the premises to be true and the conclusion to be false. An argument is *logically invalid* if and only if it is not logically valid.[1]

LOGICAL SOUNDNESS: An argument is *logically sound* if and only if it is logically valid and all its premises are true. An argument is *logically unsound* if and only if it is not logically sound.

LOGICAL TRUTH: A sentence is *logically true* if and only if it is not possible for the sentence to be false.

LOGICAL FALSITY: A sentence is *logically false* if and only if it is not possible for the sentence to be true.

LOGICAL INDETERMINACY: A sentence is *logically indeterminate* if and only if it is neither logically true nor logically false.

LOGICAL EQUIVALENCE: Sentences **p** and **q** are *logically equivalent* if and only if it is not possible for one of these sentences to be true while the other sentence is false.

LOGICAL CONSISTENCY: A set of sentences is *logically consistent* if and only if it is possible for all the members of that set to be true. A set of sentences is *logically inconsistent* if and only if it is not logically consistent.

LOGICAL ENTAILMENT: A set of sentences *logically entails* a sentence if and only if it is impossible for all the members of the set to be true and that sentence false.

[1] This is a more technical definition than what was presented in the slides, which is more intuitive. Moving forward we will be more rigorous so it is best to commit this technical definition to memory.