

Introduction to Logic

Logic - anatomy of thoughts.

Argument - series of statements called **premises** intended to determine the truth of another statement, that is named **conclusion**

Claim is some statement. Argument supports some claim and consists of premises and conclusions.

$M_i = M_x^i$ An argument is **LOGICALLY** valid if and only if it takes a form that makes it impossible for the conclusion to be false if premises are true.

For example: - **Valid argument:** If there is an earthquake, the detector will send a message. No message has been sent. So there is no earthquake. - **Invalid Argument:** Whenever Anil is here, Kumar is also here. Anil is not here, so Kumar is not here.

Analyzing arguments

1. Identify the argument. (*is this an argument?*)
2. Reconstruct the argument (*what the premises and conclusions?*)
3. Evaluate the argument. (*simplify, point out what is good and what is bad*)

An *extended argument* is an argument that is made up of two or more other sub-arguments.

Ambiguity

A sentence is ambiguous in a given context when there is more than one possible way of interpreting it in that context

- Lexical ambiguity. *He is looking for a match*
- Sentence ambiguity. *33-year old Mrs. Jones admitted to dangerous driving in Leeds Crown Court yesterday.*

Vagueness - lack of precision

Irony, in its broadest sense, is a rhetorical device, literary technique, or event in which what on the surface appears to be the case or to be expected differs radically from what is actually the case.