

ARGUMENTS

Argument is a set of sentences, one or more of which (called premises) entail one other (called conclusion).

We are going to present arguments in following form:

Premise 1
Premise 2
...
Premise n
Conclusion

Conclusion indicators (expressions usually preceding conclusion):

therefore	hence
thus	we may conclude
consequently	for this reason
we may infer	so
accordingly	implies that
entails that	as a result

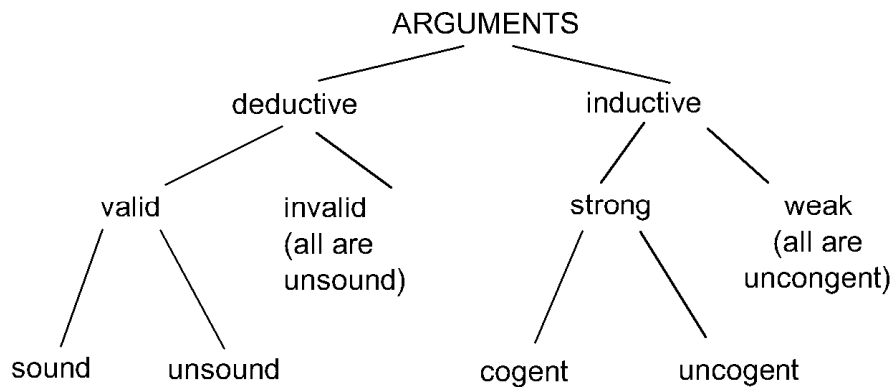
Premise indicators (expressions usually preceding premise):

since	as
as indicated by	given that
because	may be inferred from
for	for the reason that
in that	owing to

TYPICAL NONARGUMENTS

1. Warnings and advices – Example: Watch out that you don't slip on the ice!
2. Statements of belief or opinion – Example: I believe that in order to improve economic situation in Europe taxes should be decreased.
3. Reports – Example: "The Air Force faces a serious shortage of experienced pilots in the years ahead, because repeated overseas tours and the allure of high paying jobs with commercial airlines are winning out over lucrative bonuses to stay in the service," says a prominent Air Force official.
4. Illustration – Example: Chemical elements and compounds can be represented by formulas thus water is represented as H₂O.
5. Explanation – Example: Mary lied, because she was afraid of saying the truth.
6. Conditional statement – Example: If you will pass the exam, you will get a car.

TYPES OF ARGUMENTS



I. DEDUCTIVE ARGUMENTS

Deductive argument – in which conclusion is claimed to follow *necessarily* from premises.

Types of deductive arguments

1. Argument in mathematics and based on mathematics – Example: This paint costs 22,50 PLN per liter. I've ordered 5 liters of it so I will pay 112,50 PLN.
2. Argument from definition – Example: Tom is a bachelor so he has no wife.
3. Categorical syllogism – Example: Every human being is mortal. Socrates is a human being. So Socrates is mortal.
4. Hypothetical syllogism – Example: If Abra is Italian, then she is European. She is Italian, therefore she is European
5. Disjunctive syllogism – Example: Either John stole the money or Monica did. Monica didn't steal the money so John did.

Valid argument (formally correct) – deductive argument in which it is *impossible* for the conclusion to be false given that the premises are true.

Materially correct – argument that has all premises true.

Sound argument – deductive argument that is *valid* and has *all true premises*; i.e both materially and formally correct.

II. INDUCTIVE ARGUMENTS

Inductive argument – in which conclusion is claimed to follow *probably* from premises.

Types of inductive arguments

1. Prediction – Example: Some birds are coming back from warm climes, so spring is approaching.
2. Argument from analogy – Example: Tax decrease in USA had a beneficial impact on American economy, so probably tax decrease in Poland will influence positively Polish economy.
3. Inductive generalization – Example: All storks I have seen so far were white and had red beaks. So probably all storks are white and have red beaks.
4. Argument from authority – Example: John Smith murdered Joan Clark, because eyewitness testified so.
5. Argument based on signs – Example: The road sign indicates that there is a dangerous turn in 500 meters, so probably there is one.
6. Argument to the best explanation, abduction, abductive argument – Example: An hour ago, when I went for a nap, the road was dry. Now it is wet. So most likely it was raining during my nap.

Strong argument – inductive argument in which it is *improbable* for the conclusion to be false given that the premises are true.

Materially correct – argument that has all premises true.

Cogent argument – inductive argument that is *strong* and has *all true premises*; i.e both strong and materially correct.