Practice Problem Set

Phil313Q

Due Aug 30, 9:30am

For practice problems, see TLB p.14 #1 and #2.

1 True/False

Determine whether each of the following statements is true or false, and prove your answer with an example when possible.

1. All logically invalid arguments are not logically sound. (If you answer FALSE, provide an example of an argument that proves this.)
2. All logically valid arguments have true conclusions. (If you answer FALSE, provide an example of an argument that proves this.)
3. All logically sound arguments are logically valid. (If you answer FALSE, provide an example of an argument that proves this.)
4. All logically valid arguments are logically sound. (If you answer FALSE, provide an example of an argument that proves this.)
5. All logically unsound arguments are logically invalid. (If you answer FALSE, provide an example of an argument that proves this.)
6. Some arguments are both logically sound and logically invalid. (If you answer TRUE, provide an example of an argument that proves this.)
7. All arguments with true premises and a true conclusion are logically sound. (If you answer FALSE, provide an example of an argument that proves this.)
8. Some logically sound arguments have false conclusions. (If you answer TRUE, provide an example of an argument that proves this.)
9. All arguments with a logically false premise are valid. (If you answer FALSE, provide an example of an argument that proves this.)
10. Some argument with a logically false conclusion is valid. (If you answer TRUE, provide an example of an argument that proves this.)

11. All arguments with two logically equivalent premises are logically valid. (If you answer FALSE, provide an example of an argument that proves this.)

12. All arguments with a conclusion that's logically equivalent to one of its premises is logically valid. (If you answer FALSE, provide an example of an argument that proves this.)

13. No logically valid argument has a logically inconsistent set of premises. (If you answer FALSE, provide an example of an argument that proves this.)

14. All sound arguments have a logically consistent set of premises. (If you answer FALSE, provide an example of an argument that proves this.)

15. All unsound arguments have a premise that is logically indeterminate. (If you answer FALSE, provide an example of an argument that proves this.)

2 Proofs

Prove the following results.

1. Suppose that **P** is logically true and that {**P**, **Q**} is logically inconsistent. Prove that any argument with **Q** as a premise is logically valid.

2. Consider an argument with premises **P1**, **P2**, **P3** and conclusion **C**. Now suppose (i) that **C** and **D** necessarily have different truth values, and (ii) that {**P1, P2, P3, D**} is a logically inconsistent set. Prove that the argument (from **P1**, **P2**, and **P3** to **C**) is logically valid.