Worksheet D

Arguments I

Dr. M. P. M. McLoughlin

2016

1. We have the argument:

"Given the premises $A, A \longrightarrow B, \neg B \longrightarrow C$ it must be the case that C follows."

We diagramme the argument (premises connection, to conclusion).

$$\begin{array}{c} A \\ A \longrightarrow B \\ \underline{\neg B \longrightarrow C} \\ \therefore C \end{array}$$

or

$$A \wedge (A \longrightarrow B) \wedge (\neg B \longrightarrow C) \Longrightarrow C$$

Prove or disprove the claim.

2. Claim: Given the premises $\neg F, E \longrightarrow F, \neg E \longrightarrow D$ it must be the case that $\neg D$ follows. Diagramme the argument (premises connection, to conclusion).

3. Claim: Given the premises $A \vee B, \neg B, \neg C \longrightarrow \neg A$ it must be the case that D follows. Diagramme the argument (premises connection, to conclusion).

4. Given the statement $P \wedge Q \vee R \longrightarrow (\neg Q \Longleftrightarrow S) \longrightarrow P$. Diagramme the statement as if to do a truth table and identify the main connective.

5. Claim: Given the premises $A, A \longrightarrow B, B \longrightarrow C$ it must be the case that C follows. Prove or disprove the claim.

6. Claim: Given the premises $\neg F, E \longrightarrow F, \neg E \longrightarrow D$ it must be the case that D follows. Prove or disprove the claim.

7. Claim: Given the premises $A \vee B, \neg B, \neg C \longrightarrow \neg A$ it must be the case that C follows. Prove or disprove the claim.

8. Claim: Given the premises $P \wedge Q, R \longrightarrow \neg Q, S \longrightarrow R$ it must be the case that $\neg S$ follows. Prove or disprove the claim.

Recall we shall have another quiz over the laws of logic memorisation on Monday and on Wednesday!