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Philos 12A
Klaus / 106

Assignment #11

Exercise 12.1

$$\begin{array}{|l} \forall x\,[(\mathsf{Brillig}(x) \lor \mathsf{Tove}(x)) \to (\mathsf{Mimsy}(x) \land \mathsf{Gyre}(x))] \\ \forall y\,[(\mathsf{Slithy}(y) \lor \mathsf{Mimsy}(y)) \to \mathsf{Tove}(y)] \\ \exists x\,\mathsf{Slithy}(x) \\ \hline \exists x\,[\mathsf{Slithy}(x) \land \mathsf{Mimsy}(x)] \end{array}$$

The proof is logically correct. The third premise states that something is Slithy and we assume b to be one of those Slithy things. The second premise states that for all things which are either Slithy or Mimsy, they are a Tove. As b is Slithy, hence it is a Tove. The first premise states that for all things which are either Brillig or Tove, they are Mimsy and Gyre. As b is a Tove, it is Mimsy and Gyre. Hence there exists b which is Slithy and Mimsy and hence the final argument.

Exercise 12.3

Exercise 12.7

The first premise says that this world is composed of cubes, dodecahedrons, or both. The second premise says that all cubes are large and there is an object "c" that is to the left of all of them. The third premise says that all objects that are not small are tetrahedrons, but we can't have tetrahedrons in this world, so there will be no non-small objects, which implies that there will be no cubes in this world. Since we need an object "c", the only available shape for it is a dodecahedron, so we can conclude that there is at least one dodecahedron in this world.