

Tutorial 1: Expressing Knowledge

Week 2

1. Write the following sentences in Description Logic (DL).
 - a. Edinburgh Castle sits on an extinct volcano.
 - b. Edinburgh Castles is built on Castle Rock, a volcano plug.
 - c. All visitors of Edinburgh like Edinburgh.

2. Consider the following piece of knowledge: Tony, Mike and John belong to the Alpine Club. Every member of the Alpine Club who is not a skier is a mountain climber. Mountain climbers do not like rain, and anyone who does not like snow is not a skier. Mike dislikes whatever Tony likes and likes whatever Tony dislikes. Tony likes rain and snow.
 - a. Write the given sentences in Description Logic (DL).
 - b. Prove that the given sentences entail that there is a member of the Alpine Club who is a mountain climber but not a skier.
 - c. Suppose we had been told that Mike like whatever Tony dislikes, but we had not been told that Mike dislikes whatever Tony likes. Prove that the resulting set of sentences no longer logically entails that there is a member of the Alpine Club who is a mountain climber but not a skier.