Assignment 5

Duration: 1 week

Suppose the station has N number of sheds. Whenever train 0 enters the station, it brings in steel. This steel is unloaded from the train and placed in exactly one shed. If any shed contains coal, then one single shed containing coal is emptied, and that coal is loaded on train 0. Train 0 can then leave the station. Similarly, whenever train 1 enters the station, it brings in coal, which is unloaded and placed in exactly one shed. If any shed contains steel, then one single shed containing steel is emptied and loaded on train 1. Train 1 can then leave the station. Note that the property that two trains cannot simultaneously be in the station must still hold.

Encode the following properties in Linear Temporal Logic (LTL):

1. N = 2 (think ahead: we want the system to be continuously operational)
2. N = 3

Develop versions of the SUV that satisfy and refute the above properties. Add these versions to the “SUV” folder, and update the makefile appropriately.