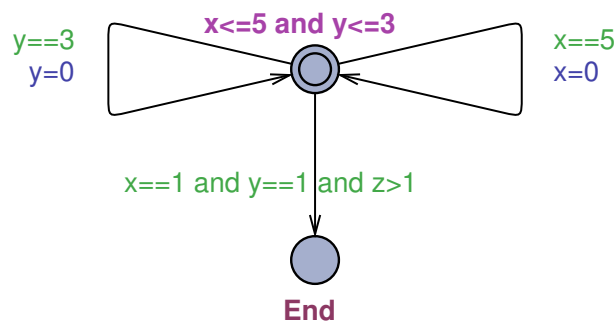


Applying Formal Verification, SS 2012

Timed Automata with UPPAAL

Assignment 1

Below, a simple timed automaton with clocks x , y , and z is depicted. Is the “End” location reachable? Create this automaton in UPPAAL and check your answer. Briefly describe your approach. What are the values that z can take in states with the “End” location being active? What are the values of z at which the transition to the “End” location can fire? How can one corroborate the answer with UPPAAL?



Assignment 2

N friends meet. How many handshakes do they need for every two to have shaken hands? How much time is needed for all handshakes in the least, if one handshake takes one second and K handshakes can happen simultaneously?

A stub UPPAAL model will be presented in class / made available for download. Use UPPAAL to answer the above questions for $N = 3$, $K = 2$. Describe your approach. What are the highest values of N and K , for which you can make UPPAAL answer your query?