

C340 Concurrency

Tutorial Session 2 - Work Sheet

This lab session will give you practical experience with safety analysis and property specification.

Exercise 1:

A small country road goes over a wooden bridge that connects two shores of a creek. The bridge is rather narrow and cars can only go north-bound or south bound. Given that it is constructed out of wood, the bridge can only carry five cars at a time. Model the bridge in FSP.

Exercise 2:

Demonstrate that your bridge model is safe. To do so, formulate the following safety properties in FSP:

- The bridge does not allow more than five cars onto the bridge at any one time
- Cars are either going south or north but there are never two cars on the bridge that go in opposite direction.

Exercise 3:

How do you use the safety properties in an implementation of the bridge model?