

Exercises werkcollege 7

Exercise 1

A self-service gas station has a number of pumps for delivering gas to customers for their vehicles. Customers are expected to pre-pay a cashier for their gas. The cashier activates a pump to deliver gas.

- a) Provide a model for a simple system with 2 customers and a gas station with 1 pump and a cashier. Include into the model a range for the different amounts of payment and corresponding amounts of gas. A customer is not satisfied if an incorrect amount of gas is delivered; this should be reflected by an ERROR state of the model.
- b) Check the safety and progress properties for this system.
- c) Extend the model to cater for 2 customers and 2 pumps.
- d) Specify and check a safety property FIFO that checks that customers are served in the order in which they pay.