

# Verification of supervisory control

## Background

Supervisory control is event based: the temperature has been reached → action, or pressure has been reached → action etc. etc. The design of a supervisory controller is seen as an art and is mostly done intuitive using logic-motivated diagrams and methods. The problem with these methods is that there is no guarantee that all possible events have been considered, simply because the system gets too complex. This asks for systematic approaches, methods.

## Description

Some years ago we have developed a method that is model based. It required us to find a method to represent the plant model in a way suitable for the supervisory control design. This has been done and published. What we have though not checked if the resulting controlled plant behaves as designed and desired.

Since both the plant model and the supervisory controller are automata, we can formal verification of the controlled plant, which is the objective of this project.

## Supervision

Supervisor: Heinz A Preisig  
Daily contact: ditto

Reserved: no

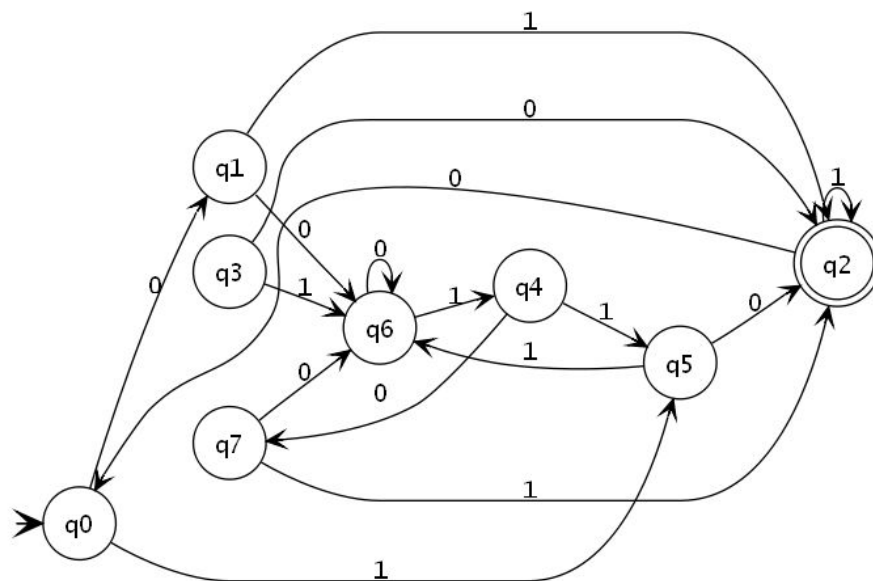


Figure: state diagram of an automaton