Statemate

Serie 2

Aufgabe 1

Specify the following air conditioning system (ACS) using Statecharts.

The ACS inputs a room's temperature from a sensor. For increasing or lowering the temperature, the ACS makes use of two pipes transporting hot resp. cold air of constant temperature, provided by a separate heater resp. cooler. If the temperature exceeds a certain threshold, the ACS opens the valve of a cold-air pipe for an amount of time that is calculated from the actual temperature. The ACS works analogously, if the temperature is lower than another threshhold. Since the temperature sensor is an unreliable device, the ACS will only become active, if the measured temperature value is too high resp. too low for at least 10 seconds.