# Analysis and Verification of Software
# **Homework 5**

due by April 12, 2015

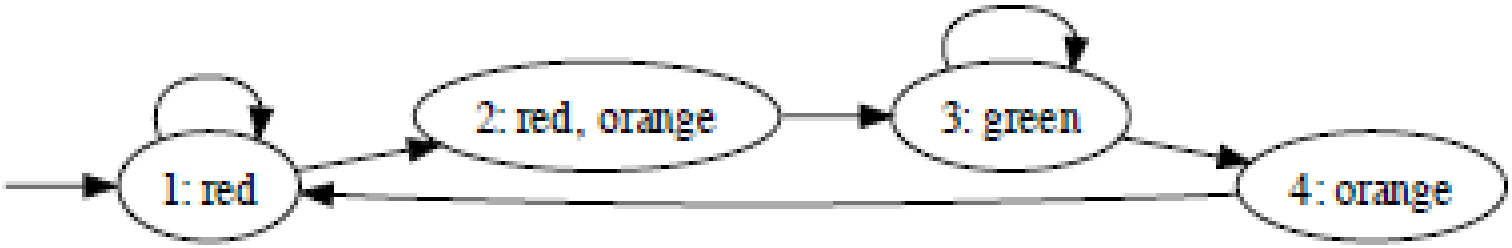
# Exercise 1

For which states of the microwave oven Kripke system depicted in the last lecture of the course the following CTL formulas hold?

1. AX(Start v Close)
2. AG(Heat -> AX(Error))
3. AG(Close -> EF(Error v –Start))

# Exercise 2

Consider the following traffic light automaton:




Formalize the following requirements in CTL, and check them:

- The traffic light is never red and green at the same time.
- If orange is true, then in the next state orange will be false.
- Under the assumption that the traffic light is orange infinitely often, it is green infinitely often and red infinitely often.