Computationele logica

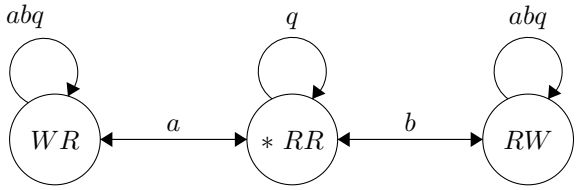
Kamans, Jim	Hendrikse, Mila	Roosingh, Sander	Schenk, Stefan
10302905	00000000	11983957	11881798

November 2017

1 Exercise 1

1. The sentence θ encoding all information:
   $\theta = K_a r_b \wedge \neg(K_a r_a \vee K_a w_a) \wedge K_b r_a \wedge \neg(K_b r_b \vee K_b w_b) \wedge K_q r_a \wedge K_q r_b$

2. A representation of the situation model $\mathbf{M}$:
   $\mathcal{A} = \{\text{a, b, q}\}$ the agents Alice, Bob, and the Queen
   $\Phi = \{r_a, w_a, r_b, w_b\}$ the colors of the hats for a and b



   This is an epistemic model: NO, the model is not reflexive.

3. Seperately a and b look in their mirrors and see their red hats, represented in the event model Σ with four actions:

   This is an epistemic model: YES / NO
   This is a doxasic model: YES / NO

4. The update product of the two models $\mathbf{M} \bigotimes \Sigma$:

   This is an epistemic model: YES / NO
   This is a doxasic model: YES / NO

2 Exercise 2

1. There are ? possible worlds.
2.
3.
4.
5.

3 Exercise 2

1.
2.
3.
4.
5.
6.
7.
8.
9.