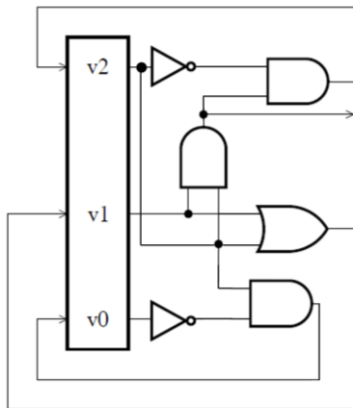# Model Checking Homework 11

Deadline: 24.6. 4:00pm
Sent solution to: modelchecking@iaik.tugraz.at

Given the following synchronous circuit C .

The initial value of the state variable v_0 of the circuit is $false$. The initial values of v_1 and v_2 are unknown.

Task 1a. [4 Points]

- Show the BDD for the transition relation. Use the variable ordering v2', v2, v1, v1', v0, v0'

Task 1b. [4 Points]

- Draw the Kripke Structure $M = (S, S_0, R, AP, L)$ that represents C. (Hint: see Homework 1.) Show the iterations of the computation of the formula $EG \neg v_2$. (You can show the iterations graphically, or you can give a sequence of sets of states. You don't need to draw any BDDs.)

Task 1c. [2 Points]

- Show which states fulfil the formula $EF\ EG \neg v_2$.