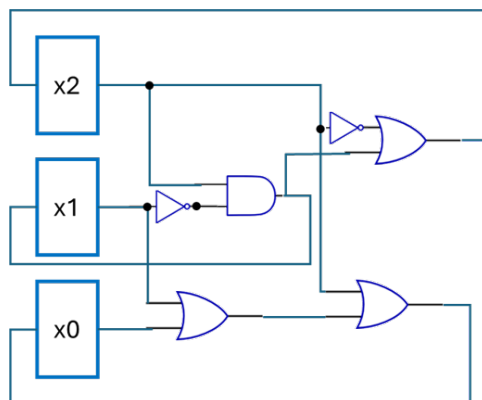


Model Checking (SS 2025) Homework 1

Deadline: **11 March 2025, 9:00 am**
Submit your solution through TeachCenter

Consider the following synchronous circuit C . The initial value of the state variable x_0 is `true`. The initial values of x_1 and x_2 are unknown.



Task 1. [50 points] State the formula S_0 that represents the set of initial states and the formula R that represents the transition relation of C .

Task 2. [50 points] Draw the Kripke structure $M = (S, S_0, R, AP, L)$ that represents C . (Add an incoming arrow for each initial state.)