

Verification

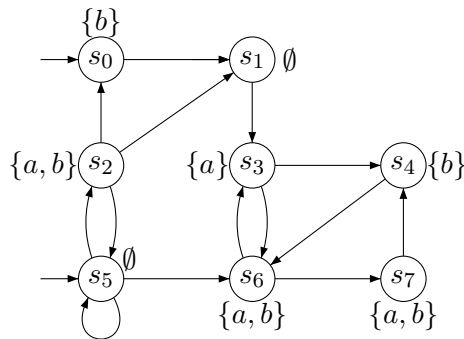
Please write the names of all group members on the solutions you hand in.

Problem 1: CTL* Model Checking

Consider the CTL*-formula (over $AP = \{a, b\}$)

$$\Phi = \text{AFGEX}(a \text{ UEG } b)$$

and the state graph S given below:



Apply the CTL* Model Checking Algorithm to compute $Sat(\Phi)$ and decide whether $S \models \Phi$.
Hint: You may infer the satisfaction sets for LTL formulas directly.

Problem 2: Bisimulation

Which of the following transition systems are bisimulation equivalent? Justify your answers by providing bisimulations or $\text{CTL}_{\setminus \cup}$ formulae that distinguish the considered transition systems. (Note that a $\text{CTL}_{\setminus \cup}$ formula contains no U-operator or its derived operators.)

