

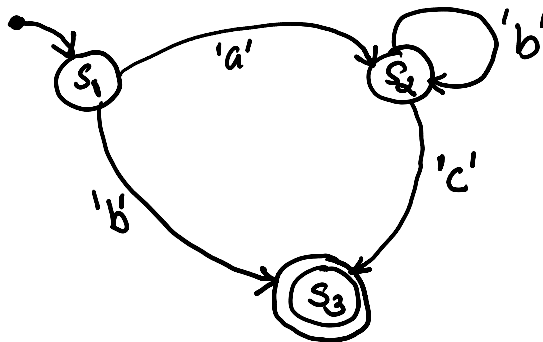
Questions

February-15-09
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Questions based on Prof. Hans Vangheluwe's lecture on February 12, 2009

These questions are given to indicate the types of questions that can appear at the final based on the above lecture. The eventual questions *need not* be a subset of the questions provided here. If you were not present at that lecture, you are responsible for studying the material covered at the lecture.

1. Give two uses of a finite state automaton.
2. What are three possible input strings that are accepted by the following FSA?



3. Give an simple example of non-deterministic finite state automaton (N DFA).
4. Statecharts add at least five major concepts to FSA and they are orthogonality, hierarchy, time, broadcasts, and history. Using simple examples show these concepts are incorporated into FSA.
5. Using a simple statechart with hierarchy illustrate the inner-first and outer-first rules. State a possible disadvantage of the inner-first rule implemented by UML.
6. What is the difference between deep history and history?
7. What is the difference between a reactive and autonomous state change in a dynamical system?
8. Provide two simple FSAs: one illustrating reactive behaviour and the other autonomous behaviour.