

Guidelines for Lab Exercise Report for Synthesis with Acacia+

- Download the tool and install it on your laptop. It can be installed only on Linux and Mac OS. This way you can see the final visualization of the Moore machine if your LTL specification is realizable.
 - Unfortunately, by using only the online browser version you cannot visualize the Moore machine if it has several states.
 - But still you can read the output of the synthesis process about the automata generated and optimizations on them in each step and also you can open the .v file with an editor and see information about states and transitions of the Moore machine. In case of using only the browser tool.
- For your LTL specification, use the combinations of tool options available regarding choice of game solving algorithm (*backward* or *forward*), monolithic and compositional solving for your LTL formula and also forward or backward algorithms for them following descriptions from the 4th lecture. Observe differences and elaborate on them in your report.
- You can also try to choose different option for tools (Wring or LTL2BA) transforming the LTL formula to automata during the first step. They produce different automata for the first step, i.e., smaller or larger. Are there then any differences in the solution in the end?
- Regarding the LTL specifications and realizability, you need to go through the slide sets until now and also read carefully the two Acacia+ papers used to construct the lecture material.
 - **Hint 1:** Satisfiability of LTL formulas does not imply realizability. You may need to add some assumptions about the environment(input) variables and/or modify the formulas to get them realized.
 - **Hint 2:** The sub-formulas for the sub-specifications of the system are the conjuncts of the full LTL formula. All of the conjuncts need to be realizable and not falsify the full formula.