This homework is based upon the two reading assignments, Planning as Satisfiability and Deconstructing Planning as Satisfiability.

1. The first paper mentions some difficulties in planning using theorem proving. Suggest two possible advantages to planning using theorem proving.

2. Planning as satisfiability did not become popular until the 1990s. Suggest two possible reasons for this. Hint: Look at table 1 and think about trends in the computer industry for one possible reason.

3. The authors note that adding additional axioms can improve GSAT’s performance on planning problems. How can you reconcile this with the findings in the phase transition paper?

4. The second paper talks about some planning problems being “intrinsically hard”. Give a precise definition of an “intrinsically hard” planning problem.

5. What is the point of having planning competitions if planning can be reduced to SAT? Why not just have SAT competitions instead?

6. Suggest an additional question for discussion.