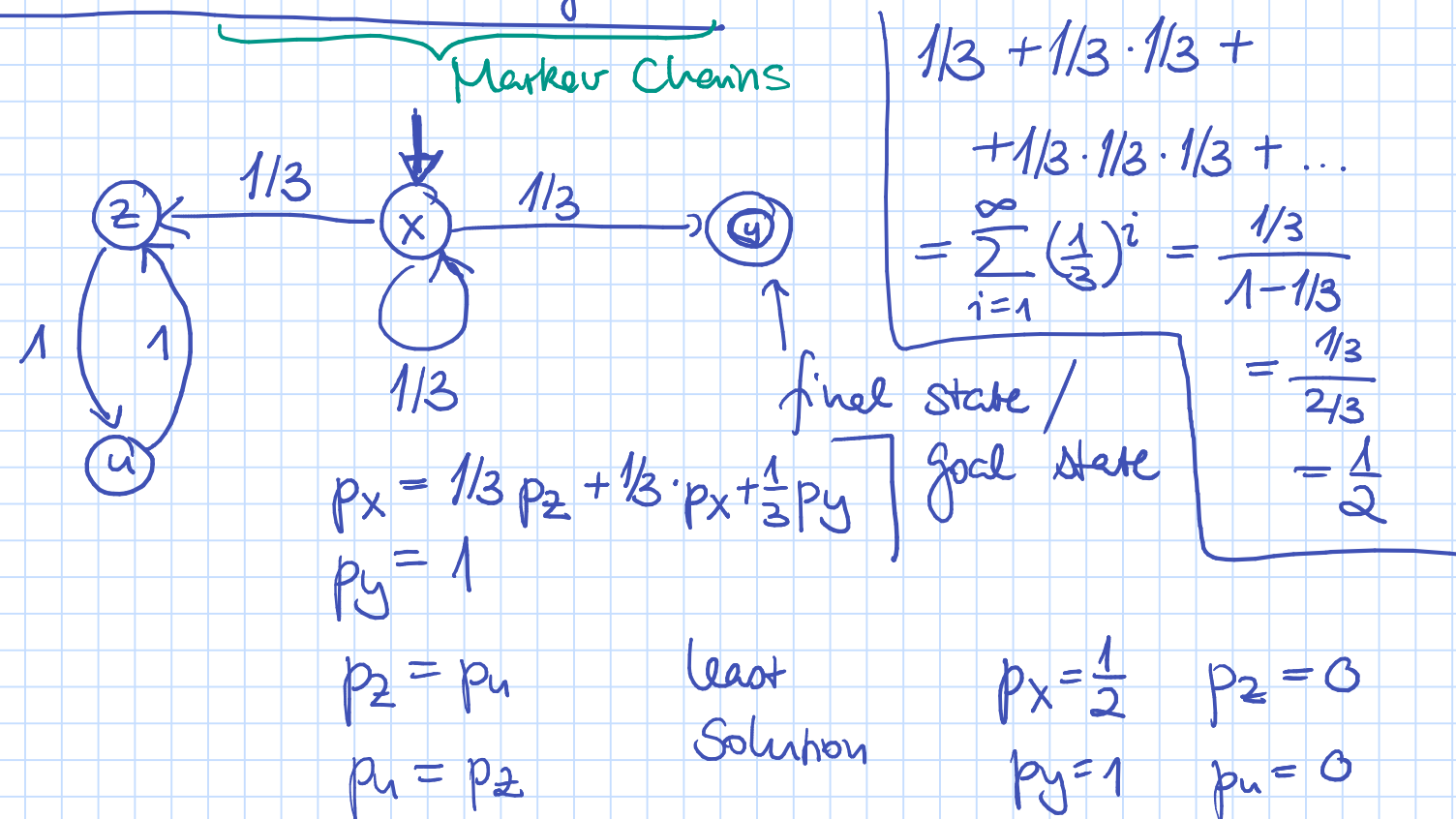
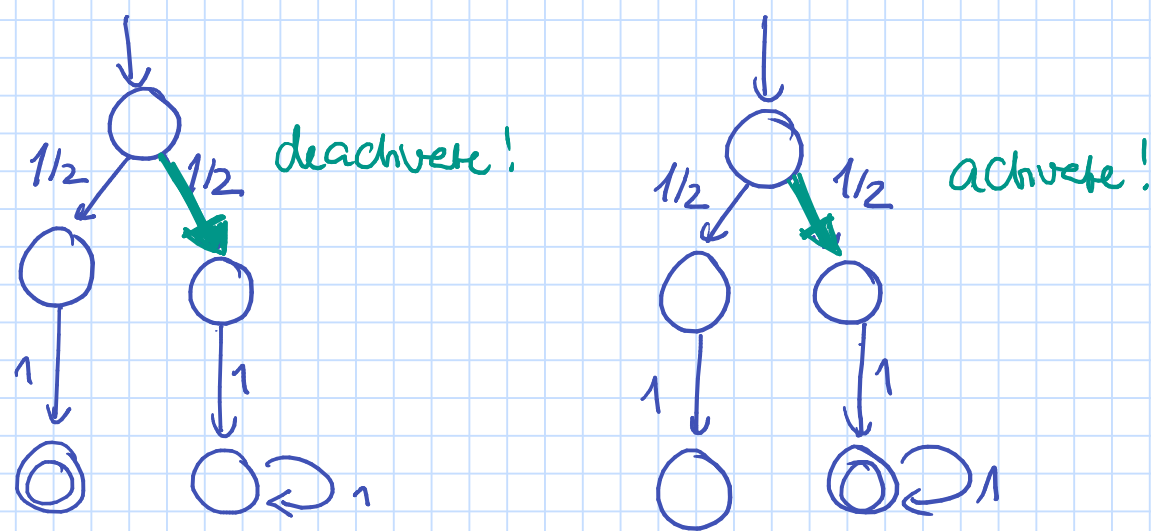


Decisions in Probabilistic Systems

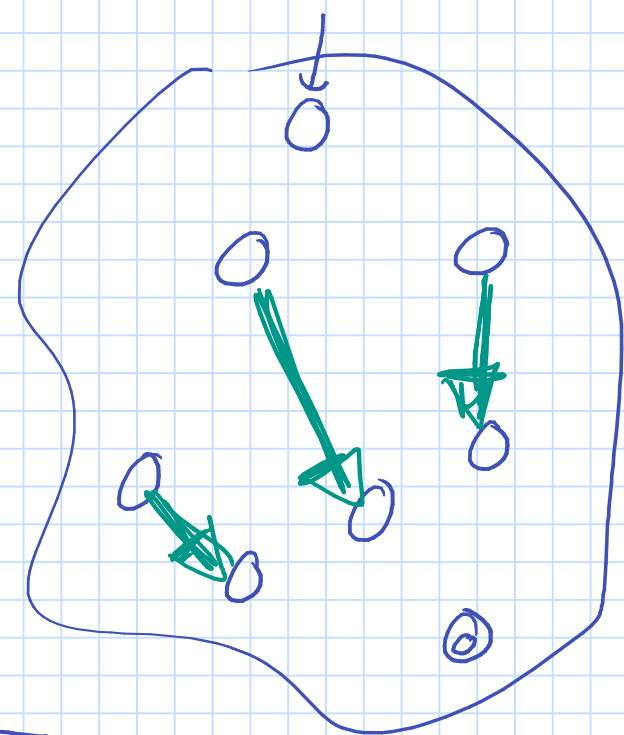


Add decisions:



Problem: Assume we have a probabilistic system with transitions that can be (de)activated.

Find the optimal deactivation that maximizes the probability to reach the goal state.



Task:

- Implement a tool
- Input and represent probabilistic systems
- Compute termination probabilities (external solver)
- Find the optimal (de)activation
 - brute-force: try all combinations
 - heuristics
 - optimal solution strategy (efficient)
 - use an SAT solver (?)
- Evaluation
 - Generate large random systems
 - Measure runtimes and quality of solution

Extension:

Rewards for several goal

- Write a thesis (30-50 pages)
- Bachelor colloquium