CS3243 Tutorial Group 7

Tutorial 5 – Constraint Satisfaction Problems

Quick recap

- Constraint satisfaction problems
  - effective CSP solvers exist and are widely used
  - See: SMT solvers, e.g. CVC4 and Z3
- **Variable assignment** (= model)
  - Complete = all variables are set
  - Consistent = no constraint is violated
- Incremental backtracking search, standard for all CSPs
  - Improve backtracking efficiency using heuristics: variable order, value order
- Forward checking and constraint propagation
  - Keep track of remaining legal values for unassigned variables; stop search when none remain