

Forge Intro

Oracle

What is a DAG? What does it mean to be directed and acyclic?

- All edges start at one edge and end at another
- Can't get back to same node by following edges

What parameters might you have to give to a random DAG generator?

- Randomly generate some number of nodes
- $N^2 - N$ edges
- Try and rank vertices in a way that will ensure we are always guaranteed to get a DAG at the end
 - Only draw an edge if it's going from a node with a higher ranking to a node with a lower ranking (but choose these randomly)
 - How do we prove that this will not create a cycle? If we try and draw every possible edge, there are no cycles in the graph
 - Does not generate every possible DAG, only up to isomorphism

Forge

- Run in DrRacket (7.5!), use `#lang forge` at the top

Some syntax:

- `sig`: kind of like a class definition
- Fields: you have a thing inside (need to specify either `1one`, `one`, `set`)
 - `1one` : either one or none
- To look at worlds: use `run` command
 - E.g. `run {}` for exactly 3 Person, exactly 2 School
- Running opens up a web page that gives a representation of the world it has created
 - Different ways to view your world; table view might be clearer than the default graph.
- Next button shows different possible worlds
- Can add constraints to limit the worlds Forge will show you