



### System Specification

A cell tester's behaviour is described by the above HnMM.

### Implementation

Extend your hard coded Proxel program with symbol outputs and path tracking

### Tasks and Questions

Construct the state space and RG of the above model, including symbol emissions.  
Write down the formal description of the above HnMM.

Use your program to answer the following questions:

- What is the probability of the given output sequence?
- What are the 5 most likely generating paths of that sequence?
- How many defective wafers were produced by each source according to these paths?
- What is the average defect probability of each source, over all relevant generating paths?

We have further test protocols from different days (2-5) representing observations of wafers from the same sources.

- Use these traces to refine your estimate of the actual defect probability of each source.

Hint: You can compute the answers for different time step sizes, or pick one time step size and state reasons for your decision.