

PERCOLATION PROJECT NOTES

- If your open/closed squares seem inverted, simply switch $<$ and $>$ in your definition of grid.
- If you want grid to be available in all of your functions, then make sure it is a global variable.

use: **global grid**

Variables defined inside of functions are local by default.

LAST TIME: Given steady-state distribution $\vec{p} = (p_0, p_1, \dots, p_{n-1})$.

First, choose a proposal transition matrix Q .

Modify Q to obtain an actual transition matrix P :

Transition
 $S_j \rightarrow S_i$

• If $p_j \leq p_i$, then $P_{i,j} = Q_{i,j}$ ← row i , col j

• If $p_j > p_i$, then $P_{i,j} = \frac{p_i}{p_j} Q_{j,i}$ $p = \frac{p_i}{p_j}$

TODAY: What if we have a lot of states? Maybe $n=1,000,000$?

It is not practical to store a $1,000,000 \times 1,000,000$ matrix.

Want to simulate an "agent" moving around the markov chain without storing a matrix in memory.

EXAMPLE:

