

61A Extra Lecture 2

Announcements

cs61a.org/extra.html

Quines

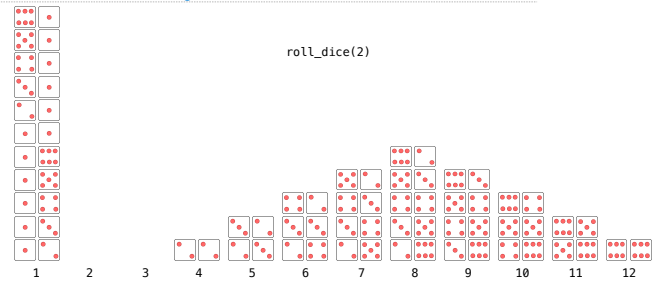
(Demo)

Church Numerals

(Demo)

Dice

Exact Chances for Rolling Dice



(Demo)

Hog: The End Game

You: 99
Them: 99

You: 88
Them: 99

You: 88
Them: 99

What is the chance that I'll score at least k points rolling n six-sided dice?

(Demo)

Memoization

(Demo)

Twenty-One (Nim)

(Demo)

Twenty-One Rules

Two players alternate turns, on which they can add 1, 2, or 3 to the current total

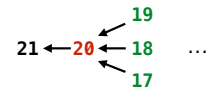
The total starts at 0

The game end whenever the total is 21 or more

The last player to add to the total loses

(Demo)

Some states are good; some are bad



(Demo)

Hog Optimal Strategies

Contest Challenges

Larger state space than Nim & random transition function

Spring 2015 Optimal Strategy

• Rules: <http://inst.eecs.berkeley.edu/~cs61a/sp15/proj/hog/>

• Designed for what opponent?

Partial information: your strategy is not a function of the dice being used

