



UC Berkeley EECS
Lecturer SOE
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CS10 The Beauty and Joy of Computing

Lecture #25 : Tree Recursion

2010-11-29

MS KINECT = BODY I/O

The newly released (and much-hyped) Microsoft Kinect system for the XBOX 360 used controller-free body motions to control games, music, and movies.



xbox.com/kinect/



Review: What's in a Strong Solution

- For every position

- Assuming alternating play

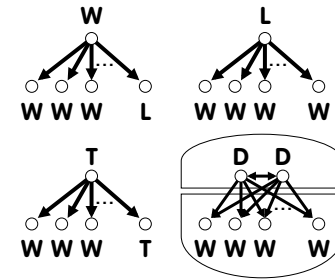
- Value ...

(for player whose turn it is)

- Winning (\exists losing child)
- Losing (All children winning)
- Tieing (\nexists losing child, but \exists tieing child)
- Drawing (can't force a win or be forced to lose)

- Remoteness

- How long before game ends?



Review : Example: 1,2,...,10

- Rules (on your turn):

- Running total = 0

- Rules (on your turn):

- Add 1 or 2 to running total

- Goal

- Be the FIRST to get to 10

- Example

- Ana: "2 to make it 2"
- Bob: "1 to make it 3"
- Ana: "2 to make it 5"
- Bob: "2 to make it 7" → photo
- Ana: "1 to make it 8"
- Bob: "2 to make it 10" I WIN!



7 ducks (out of 10)



Let's write code to determine value!

- 0 = Win

- 1 = Lose

- 2 = Win

- 3 = Win

- 4 = Lose

- 5 = Win

- 6 = Win

- 7 = Lose

- 8 = Win

- 9 = Win

- 10 = Lose

- P = Position

- M = Move

- We only need 3 blocks to define a game

- Do Move M on Position P

- a new Position

- Generate Moves from Position P

- list of Moves

- Primitive Value of Position P

- {win, lose, tie, undecided}

