

1/29/11

# Tic Tac Toe

CMG Digital Interview

## Algorithm

Minimax - used in decision theory, and games

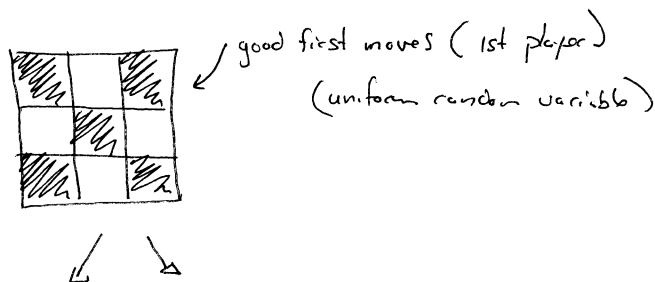
often used in two player games

algorithm stores data in tree  $\Rightarrow$  tuple in python (nested)  $\Rightarrow$  use dict location: score

1	2	3
4	5	6
7	8	9

$9! = 362880$  possible games

$7! = 5040 \Rightarrow$  make a special case for first move



if first move  
is corner  
next move  
should be  
center

if first move is center  
any corner is  
safe move  
(one selection)

(uniform random variable)

data structures  $\Rightarrow$  status  $\Rightarrow$  tuple/dictionary } game status class  
 move  $\Rightarrow$  int  
 done  $\Rightarrow$  bool  
 state  $\Rightarrow$  list  $\Rightarrow$  state? over engineering??  
 functions  $\Rightarrow$  create solution graph  
 next move  
 test for win  
 get state

1	2	3
4	5	6
7	8	9

} positions

'X', 'O', '-' values