

abstractstrategy

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1 '''
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3
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5 '''
6
7 import checkerboard
8
9 class Strategy:
10     """Abstract strategy for playing a two player game.
11     Abstract class from which specific strategies should be derived
12     """
13
14     def __init__(self, player, game, maxplies):
15         """Initialize a strategy
16         player is the player represented by this strategy
17         game is a class or instance that supports the class or instance method
18             game.other_player(player) which finds the name
19             of the other player
20         maxplies is the maximum number of plies before a cutoff is applied
21         """
22
23         # Useful for initializing any constant values or structures
24         # used to evaluate the utility of a board
25         self.maxplayer = player
26         self.minplayer = game.other_player(player)
27         self.maxplies = maxplies
28
29     def utility(self, board):
30         "Return the utility of the specified board"
31         raise NotImplementedError("Subclass must implement")
32
33     def play(self, board):
34         """play - Make a move
35         Given a board, return (newboard, action) where newboard is
36         the result of having applied action to board and action is
37         determined via a game tree search (e.g. minimax with alpha-beta
38         pruning).
39         """
40
41         raise NotImplementedError("Subclass must implement")
42
```