

Project Task 11: Minimax Part 1 By Carrie Corcoran

This is the seventh task for my semester- long project of creating mancala playing machines, and the first task related to Minimax. In this task, I defined how to save a game state and the static evaluation function. This task is relatively light on code as it came with additional research into Minimax AI.

Code:

```
(defun save-state (current)
  (cond
    (current
      (setf state (list
(a1) (a2) (a3) (a4) (a5) (a6) (ah) (b1) (b2) (b3) (b4) (b5) (b6) (bh)))
      )
    (t
      (setf state (list (get a1-copy value) (get a2-copy
value) (get a3-copy value) (get a4-copy value)
      (get a5-copy value) (get a6-copy value) (get ah-copy
value) (get b1-copy value)
      (get b2-copy value) (get b3-copy value) (get b4-copy
value) (get b5-copy value)
      (get b6-copy value) (get bh-copy value)))
      )
    )
  state
)

(defun static-eval-function (state player)
  (cond
    ((eql player 'a)
      (- (nth 6 state) (nth 13 state))
    )
    (t
      (- (nth 13 state) (nth 6 state))
    )
  )
)

(defun create-node (player state move)
  (list player state move (static-eval-function state player))
)
```

Demo:

```
[ ]> (static-eval-test)
```

```
Testing starting state for player A: 0
```

```
Making move:
```

	HB	B6	B5	B4	B3	B2	B1	
	—	6	0	6	6	1	6	—
0	—	—	—	—	—	—	—	—
		—	—	—	—	—	—	3
	1	6	6	6	0	1		
—	—	—	—	—	—	—	—	—
	A1	A2	A3	A4	A5	A6	HA	

```
Testing state after move for player A: 3
```

```
Testing state after move for player B: -3
```

```
NIL
```