

TTT LM: Preliminary Play Method with Interpretation

A play method for a random tic-tac-toe playing agent. Includes analysis of 5 trial runs.

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Listing of ttt.l:

```
;; tic-tac-toe machine learning

;; select
(defmethod select ((l list))
  (nth (random (length l)) l)
)

;; snoc
(defmethod snoc ((s symbol) (l list))
  (append l (list s))
)

;; play
(defmethod play (&aux play avail move)
  (setf play ())
  (setf avail '(nw n ne w c e sw s se))
  (dolist (player '(x o x o x o x o x))
    (cond
      ((eq player 'x)
       (setf move (select avail))
        (setf avail (remove move avail))
        (setf play (snoc move play))
       )
      ((eq player 'o)
       (setf move (select avail))
        (setf avail (remove move avail))
        (setf play (snoc move play))
       )
    )
  )
)
play
)
```

Listing of ttt-play.text:

```
$ clisp
```

```
<...snip...>
```

```
[1]> (load "ttt.l")
```

```
;; Loading file ttt.l ...
```

```
;; Loaded file ttt.l
```

```
T
```

```
[2]> (play)
```

```
(NW SW SE E S NE W C N)
```

```
X1|X5|O3
```

```
--+---+--
```

```
X4|O4|O2    Loss (0 wins)
```

```
--+---+--    (01-04-03)
```

```
O1|X3|X2
```

```
[3]> (play)
```

```
(S SE N SW E NE NW C W)
```

```
X4|X2|O3
```

```
--+---+--
```

```
X5|O4|X3    Loss (0 wins)
```

```
--+---+--    (02-04-03)
```

```
O2|X1|O1
```

```
[4]> (play)
```

```
(NW W C S SW NE E N SE)
```

```
X1|O4|O3
```

```
--+---+--
```

```
O1|X2|X4    Win (X wins)
```

```
--+---+--    (X1-X2-X5)
```

```
X3|O2|X5
```

```
[5]> (play)
```

```
(C NE N SW W SE NW E S)
```

```
X4|X2|O1
```

```
--+---+--
```

```
X3|X1|O4    Loss (0 wins)
```

```
--+---+--    (01-04-03)
```

```
O2|X5|O3    (both actually win, but 0 wins first, and the game would end  
before X5)
```

```
[6]> (play)
```

```
(SW E C N NW W SE NE S)
```

```
X3|O2|O4
```

```
--+---+--
```

```
O3|X2|O1    Win (X wins)
```

```
--+---+--    (X1-X5-X4)
```

```
X1|X5|X4
```

```
[7]> (bye)
```

```
Bye.
```