

Lab 4

Unfortunately I wasn't able to make the server unbeatable but for a rookie TTT player it can be fairly good

Win, Loss, and Tie:

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS COMMENTS
0 | 0 | X
---
0 | X | 
---
| | 
-- client: Where do you want to move [1-9]? 9
-- client: Sending [process_player_turn] response to node 'bery@codespaces-8da88d' with board [-1,-1,1,-1,1,0,0,0,0] and player move 9.
-- client: Received [player_turn] request from node 'bery@codespaces-8da88d' with board [-1,-1,1,-1,1,0,0,0,0] and player move 5.
-- server: Placing an X into position 5.
Server is Placing a 0 into position 2.
-- server: Received [process_player_turn] request from node 'rosanna@codespaces-8da88d' with board [-1,-1,0,0,1,0,0,0,0] and player move 3.
-- server: Placing an X into position 3.
Server is Placing a 0 into position 4.
-- server: Received [process_player_turn] request from node 'rosanna@codespaces-8da88d' with board [-1,-1,1,-1,1,0,0,0,0] and player move 9.
-- server: Placing an X into position 9.
Server is Placing a 0 into position 6.
-- server: Received [process_player_turn] request from node 'rosanna@codespaces-8da88d' with board [-1,-1,1,-1,1,-1,0,0,1] and player move 7.
-- server: Placing an X into position 7.
-- server: Sending [game_over] response to node 'rosanna@codespaces-8da88d'. Player wins!
0 | 0 | X
---
0 | X | 0
---
| | X
-- client: Where do you want to move [1-9]? 7
-- client: Sending [process_player_turn] response to node 'bery@codespaces-8da88d' with board [-1,-1,1,-1,1,-1,0,0,1] and player move 7.
-- client: Received [game_result] request from node 'bery@codespaces-8da88d'.
Winner...The server learns...
@jasongasparini →/workspaces/erSlang/lab 4 (main) $

(bery@codespaces-8da88d)1> ttServer:start().
-- server: TTT server started on node 'bery@codespaces-8da88d' (pid <0.84.0>) with pid <0.86.0> registered as ttServer.
ok
-- server: Received [start_game] request from node 'rosanna@codespaces-8da88d'.
-- server: Sending [player_turn] response to node 'rosanna@codespaces-8da88d'.
Server is Placing a 0 into position 1.
-- server: Received [process_player_turn] request from node 'rosanna@codespaces-8da88d' with board [-1,0,0,0,0,0,0,0,0] and player move 6.
-- server: Placing an X into position 5.
Server is Placing a 0 into position 2.
-- server: Received [process_player_turn] request from node 'rosanna@codespaces-8da88d' with board [-1,-1,0,0,1,0,0,0,0] and player move 3.
-- server: Placing an X into position 3.
Server is Placing a 0 into position 4.
-- server: Received [process_player_turn] request from node 'rosanna@codespaces-8da88d' with board [-1,-1,1,-1,1,0,0,0,0] and player move 9.
-- server: Placing an X into position 9.
Server is Placing a 0 into position 6.
-- server: Received [process_player_turn] request from node 'rosanna@codespaces-8da88d' with board [-1,-1,1,-1,1,-1,0,0,1] and player move 7.
-- server: Placing an X into position 7.
-- server: Sending [game_over] response to node 'rosanna@codespaces-8da88d'. Player wins!
0 | 0 | X
---
0 | X | 0
---
X | | X
-- client: Where do you want to move [1-9]? 4
-- client: Sending [process_player_turn] response to node 'bery@codespaces-8da88d' with board [-1,0,0,0,0,0,0,0,0] and player move 4.
-- client: Received [player_turn] request from node 'bery@codespaces-8da88d' with board [-1,-1,0,0,1,0,0,0,0] and player move 6.
-- server: Placing an X into position 4.
Server is Placing a 0 into position 2.
-- server: Received [process_player_turn] request from node 'rosanna@codespaces-8da88d' with board [-1,-1,0,0,1,0,0,0,0] and player move 6.
-- server: Placing an X into position 6.
Server is Placing a 0 into position 3.
-- server: Sending [game_over] response to node 'rosanna@codespaces-8da88d'. Computer wins!
0 | 0 | 0
---
X | | X
---
| | 
(bery@codespaces-8da88d)2>

(bery@codespaces-8da88d)2>
BREAK: (a)bort (c)ontinue (p)roc info (i)nf (l)oad (v)ersion (k)ill (D)b-tables (d)istribution
@jasongasparini →/workspaces/erSlang/lab 4 (main) $ erl -sname bery
Erlang/OTP 22 [erts-10.6.4] [source] [64-bit] [smp:2:2] [ds:2:2:10] [async-threads:1]

Eshell V10.6.4 (abort with ^G)
(bery@codespaces-8da88d)1> ttServer:start().
-- server: TTT server started on node 'bery@codespaces-8da88d' (pid <0.84.0>) with pid <0.86.0> registered as ttServer.
ok
-- server: Received [start_game] request from node 'rosanna@codespaces-8da88d'.
-- server: Sending [player_turn] response to node 'rosanna@codespaces-8da88d'.
Server is Placing a 0 into position 1.
-- server: Received [process_player_turn] request from node 'rosanna@codespaces-8da88d' with board [-1,0,0,0,0,0,0,0,0] and player move 4.
-- server: Placing an X into position 4.
Server is Placing a 0 into position 2.
-- server: Received [process_player_turn] request from node 'rosanna@codespaces-8da88d' with board [-1,-1,0,0,1,0,0,0,0] and player move 6.
-- server: Placing an X into position 6.
Server is Placing a 0 into position 3.
-- server: Sending [game_over] response to node 'rosanna@codespaces-8da88d'. Computer wins!
0 | 0 | 0
---
X | | X
---
| | 
(bery@codespaces-8da88d)2>

-1,
-1,
1,
-1,
1].
-- server: Placing an X into position 7.
Server is Placing a 0 into position 6.
-- server: Received [process_player_turn] request from node 'rosanna@codespaces-8da88d' with board [-1,1,-1,1,-1,-1,1,0,0] and player move 9.
-- server: Placing an X into position 9.
Server is Placing a 0 into position 8.
-- server: Received [process_player_turn] request from node 'rosanna@codespaces-8da88d' with board [-1,1,-1,1,-1,-1,1,-1,1] and player move 9.
-- server: Cannot place an X into position 9.
-- server: Sending [game_over] response to node 'rosanna@codespaces-8da88d'. It's a tie!
0 | X | 0
---
X | 0 | 0
---
X | 0 | X
-- client: Where do you want to move [1-9]? 9
-- client: Sending [process_player_turn] response to node 'berry@codespaces-8da88d' with board [-1,1,-1,1,-1,-1,1,-1,1] and player move 9.
-- client: Received [game_result] request from node 'berry@codespaces-8da88d'.
You tied. How boring...It seems like this has happened before...
@jasongasparini →/workspaces/erSlang/lab 4 (main) $

```

Unexpected/invalid moves are not recognized and in turn the server will just query the client for another input until a valid move is given.

-1 and 10 examples:

```
-- client: Where do you want to move [1-9]? -1
-- client: Sending [process_player_turn] response to node 'berry@codespaces-8da88d' with board [-1,1,-1,1,-1,-1,0,1,0] and player move -1.
-- client: Received [player_turn] request from node 'berry@codespaces-8da88d' with board [-1,1,-1,1,-1,-1,0,1,0].

  0 | X | 0
  ---+---
  X | 0 | 0
  ---+---
  | X |
-- client: Where do you want to move [1-9]? []

Server is Placing a 0 into position 3.
-- server: Received [process_player_turn] request from node 'rosanna@codespaces-8da88d' with board [-1,1,-1,0,0,0,0,0,0] and player move 4.
-- server: Placing an X into position 4.
Server is Placing a 0 into position 5.
-- server: Received [process_player_turn] request from node 'rosanna@codespaces-8da88d' with board [-1,1,-1,1,-1,0,0,0,0] and player move 10.
-- server: Received [process_player_turn] request from node 'rosanna@codespaces-8da88d' with board [-1,1,-1,1,-1,0,0,0,0] and player move 10.
-- server: Received [process_player_turn] request from node 'rosanna@codespaces-8da88d' with board [-1,1,-1,1,-1,0,0,0,0] and player move 8.
-- server: Placing an X into position 8.
Server is Placing a 0 into position 6.
-- server: Received [process_player_turn] request from node 'rosanna@codespaces-8da88d' with board [-1,1,-1,1,-1,-1,0,1,0] and player move 10.
-- server: Received [process_player_turn] request from node 'rosanna@codespaces-8da88d' with board [-1,1,-1,1,-1,-1,0,1,0] and player move -1.
(berry@codespaces-8da88d)>
```

```
-- client: Where do you want to move [1-9]? 10
-- client: Sending [process_player_turn] response to node 'berry@codespaces-8da88d' with board [-1,1,-1,1,-1,-1,0,1,0] and player move 10.
-- client: Received [player_turn] request from node 'berry@codespaces-8da88d' with board [-1,1,-1,1,-1,-1,0,1,0].

  0 | X | 0
  ---+---
  X | 0 | 0
  ---+---
  | X |
-- client: Where do you want to move [1-9]? []

and [-1,1,-1,0,0,0,0,0,0] and player move 4.
-- server: Placing an X into position 4.
Server is Placing a 0 into position 5.
-- server: Received [process_player_turn] request from node 'rosanna@codespaces-8da88d' with board [-1,1,-1,1,-1,0,0,0,0] and player move 10.
-- server: Received [process_player_turn] request from node 'rosanna@codespaces-8da88d' with board [-1,1,-1,1,-1,0,0,0,0] and player move 10.
-- server: Received [process_player_turn] request from node 'rosanna@codespaces-8da88d' with board [-1,1,-1,1,-1,0,0,0,0] and player move 8.
-- server: Placing an X into position 8.
Server is Placing a 0 into position 6.
-- server: Received [process_player_turn] request from node 'rosanna@codespaces-8da88d' with board [-1,1,-1,1,-1,-1,0,1,0] and player move 10.
-- server: Received [process_player_turn] request from node 'rosanna@codespaces-8da88d' with board [-1,1,-1,1,-1,-1,0,1,0] and player move -1.
-- server: Received [process_player_turn] request from node 'rosanna@codespaces-8da88d' with board [-1,1,-1,1,-1,-1,0,1,0] and player move 10.
(berry@codespaces-8da88d)>
```