

Tic Tac Toe Game Proposal

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Project Overview:

The idea is to build a simple but smart tic tac toe game using python language and tkinter for GUI, The goal is to let a human player compete against a computer, with clear interface.

Algorithm:

we used minimax algorithm that allows the computer to make the best possible move, it assumes that the computer and the human play perfectly.

Agent Design (PEAS)

- Performance Measure: win the game against the human or at least achieve a tie.
- Environment: A 3*3 TIC TAC TOE grid.
- Actuators: selecting an empty cell on the board and placing “O” on it.
- Sensors: reading the current state of the board to detect which cells are occupied by “X”, “O”, or are empty

Environment properties (ODESDA)

- Fully observable: the agent sees the entire 3*3 grid.
- Deterministic: every move made on a board always produces the exact same next board state.
- Sequential: each move builds on the last.
- Static: same board nothing changes.
- Discrete: there is a finite set of board states and a finite set of clear moves.
- Multi-agent: two players (the human and computer).

