

Exercise Artificial Intelligence

Assignment 0 – Point 3 (Theory)

3.1 How big is the state space of Tic-Tac-Toe?

There are 9 fields with 3 states each, which means that there are $3^9 = 19683$ possible states.

3.2 Who or what is “WOPR”, and what could “WOPR” infer from playing Tic-Tac-Toe?

WOPR (War Operation Plan Response) is a fictional Artificial Intelligence, from the movie *WarGames*.

In Tic-Tac-Toe, WOPR would calculate the perfect move, if it would play against a worthy opponent (e.g. against itself), the game would always result in a draw.

After a series of matches WOPR might infer that the game has no winner, and that "the only winning move is not to play."