Universidade de Aveiro

Departamento de Electrónica, Telecomunicações e Informática

Programming Elements (2023/24)

Lab work n° 3 — Due: 31 Dec 2023

Part I

1. Implement a command-line interface for playing tic-tac-toe. The program should be able to:

   - Print the current state of the game (i.e., the board)

   - Ask the current player to provide a move and validate it

   - Determine if there is a winner

   - Start the game from a predefined state (that is passed as a command line argument and appropriately validated)

2. Add an option to allow playing against a random agent (the seed of the pseudo-random generator should be passed as a command-line argument).

3. Using the neural network funcionalities implemented in the previous mini-projects, train an agent against which we can play tic-tac-toe.

Part II

4. Elaborate a small report, where you describe all the relevant steps and decisions taken in all the items of the work. Also, provide experimental results, such as some examples of playing situations, critically commented.