Obstruction Game

A Python implementation of the classic paper-and-pencil game *Obstruction*, developed as part of the *Introduction to Computer Science (CS-UH 1001)* course at NYU Abu Dhabi in Spring 2024.

Objective

Obstruction is a turn-based, two-player game played on a 2D grid. Players alternate placing their checkers (X, 0, etc.) on unoccupied spaces. After a move, all adjacent cells are "blocked" (marked with #). The player unable to make a move loses the game.

Features

- Fully text-based interface in the terminal.
- Supports dynamic board sizes (default: 6x6).
- Configurable number of players (up to 5).
- Uses clear, modular functions for:
    - Input validation
    - Move handling
    - Board display
    - Neighbor blocking
- Randomized first player selection.
- Game ends when no more legal moves are possible.

Files

- `Obstruction.py`: Main source code file containing the game logic.
- `READ ME Obstruction.pdf`: Assignment brief and specifications.

Getting Started

Prerequisites

- Python 3.x
- Unix/Linux terminal (recommended)

Running the Game

1. Open a terminal.
2. Navigate to the directory containing the script.

Run:

```
python3 Obstruction.py
```

Controls

- Players take turns entering a coordinate like `C3` (column letter followed by row number).
- Invalid or occupied inputs prompt an error message and retry.

Configuration

To change the board or player settings, modify the following constants at the top of `Obstruction.py`:

python
CopyEdit
`NUM_ROW = 6`

```
NUM_COL = 6
NUM_PLAYERS = 2
```

- Maximum board size: 9x9
- Minimum board size: 4x4
- Maximum players: 5 (`['X','O','M','N','P']`)

Assignment Highlights

This project demonstrates core concepts in Python:

- Working with lists and loops
- String manipulation
- Conditional logic
- Game state management
- Modular programming