

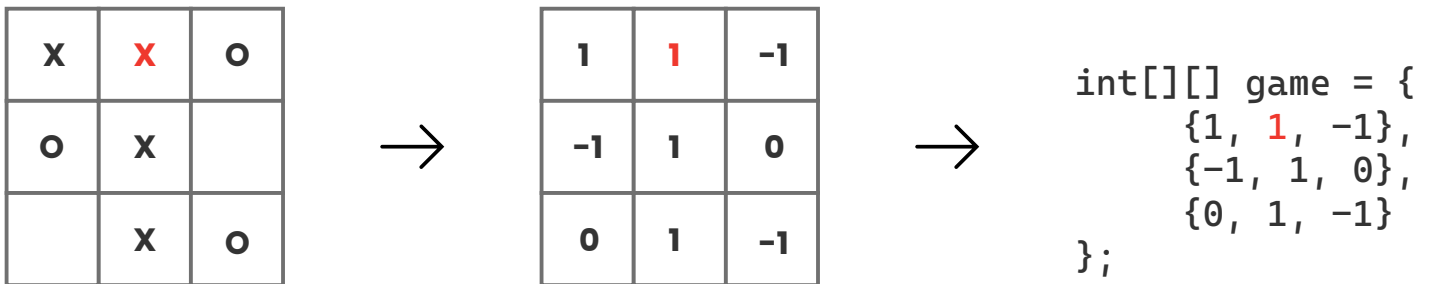
Noughts and Crosses Verifier.



This project features a Noughts and Crosses/Tic-Tac-Toe verifier that can be used to determine the winner in a Tic-Tac-Toe game. The project includes the following main files: the TicTac class for the main verifier, and the TicTacTest class file for the unit tests.

TicTac

The main TicTac file includes a constructor which takes the representation of a 3x3 grid as the input (the current state of the game), and the X and Y positions of the last move made. The 3x3 grid is represented using a multi-dimensional `int` array, where Xs are represented as 1, Os are represented as -1, and empty spaces (where a move is yet to be made) are represented as 0. The idea is that if we have three Xs in a horizontal, vertical, or diagonal row, we will have the output 3, or if O wins, the output will be -3. This is visualised below:



In this example, the last made move is at (0, 1) (row, column), so to check the state of the game, we need to initialise it first. Here, `game` is the array with the X/O values, 0 is the row position, and 1 is the column position for the last made move. So (0, 1) is the coordinates for the last made move.

```
TicTac testGame = new TicTac(game, 0, 1);
```

We can then check the state of the game with:

```
testGame.verifyGame();
```

In this case, X wins the game vertically on the second column (adds up to 3), and the method will return "X has won".

Running, Building, and Testing

The project uses Gradle, so we can do the following:

- `./gradlew build` to build the project and generate test results, etc.
- `./gradlew test` to run the unit tests that checks for equality and boundaries.
- `./gradlew run` to run the game in the Main method within the TicTac file.