

tictactoe

1. How many classes are there in `tictactoe.java`?

In `tictactoe.java` there is 1 class named `tic-tac-toe`.

2. How many objects are there in `tictactoe.java`?

There are 5 objects in `tictactoe.java`: `Scanner` object, board array object, `String` objects for "X" and "O" turns, `String` objects in array initialization and `String` objects from string literals in messages

3. How many methods are there in `tictactoe.java`?

There are 3 methods in `tictactoe.java`: `checkWinner()`, `printBoard()` and `main(String[] args)`.

4. Briefly explain how `tictactoe.java` works.

The game creates a 3x3 board, where each cell is numbered 1 through 9. The game alternates between two players (X and O), starting with X. Player X enters a number corresponding to where they want to place their X. If the move is valid, meaning it is a number between 1 and 9 and position not taken, the X is placed and the board is updated. The game switches to player O. This continues until either: a) a player wins by getting 3 in a row horizontal, vertical, or diagonal. b) the game ends in a draw when all positions are filled. At each turn, the `checkWinner()` method checks if anyone has won. The code uses exception handling to deal with invalid inputs, and prevents players from selecting already-taken positions. The game keeps running in a while loop until there's either a winner or a draw, at which point it displays the appropriate ending message.

5. Draw a graph indicating the classes, objects, and methods used in `tictactoe.java`.

