# Übung: TDD für TicTacToe

Gegeben:

Spezifikation unter <https://en.wikipedia.org/wiki/Tic-tac-toe>

## Requirements und ihre Testcases

## **Requirement 1: A piece can be placed on any empty space of a 3×3 board.**

### Testcases

### When a piece is placed anywhere outside the X axis, then RuntimeException is thrown.

### When a piece is placed anywhere outside the Y axis, then RuntimeException is thrown.

### When a piece is placed on an occupied space, then RuntimeException is thrown.

#### Für diesen Testfall sei einheitlich festgelegt, dass das Spielfeld wie folgt dargestellt wird:

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| **private** char [][] board = {{'\0', '\0', '\0'}, // 00, 01, 02  {'\0', '\0', '\0'}, // 10, 11, 12  {'\0', '\0', '\0'}};// 20, 21, 22 |

## **Requirement 2**

### There should be a way to find out which player should play next.

Testcases:

### The first turn should be played by played X

### If the last turn was played by X, then the next turn should be played by O

### If the last turn was played by O, then the next turn should be played by X

#### Für den letzten Test ist höchstwarscheinlich nichts zu implementieren. Also sollte er weggelassen werden. Er würde ein „false positive“ liefern.

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| If the test is passing, then the feature already exists or the test is producing a false positive. If that's the case and the test actually always passes independently of implementation, it is, in itself, worthless and should be removed. A test must not only fail, but must fail for the expected reason. |

## **Requirement 3**

### A player wins by being the first to connect a line of friendly pieces from one side or corner of the board to the other.

Testcases:

### If no winning condition is fulfilled, then there is no winner (default case)

#### Für diesen Testfall muss evtl. die Signatur der play()-Methode geändert werden, um per state-Testing einen überprüfbaren Rückgabewert zu erhalten. Somit schlägt der erste Test fehl wegen eines Compilation-Errors oder einer bewußt falschen Implementierung (return ““ o.ä.). Wenn im ersten Schritt (RED) bei dieser Signaturänderung alle außer dem letzten Test gelingen, dann hat die Signaturänderung keine negativen Folgen und kann beibehalten werden.

### Check horizontal lines

### Check vertical lines

### Check diagonal lines

## **Requirement 4**

### The result is a draw when all the boxes are filled.

Testcases:

### The result is a draw when all the boxes are filled.