Instruction manual - Chess

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1 Introduction

Chess is a game played far and wide by all kinds of people. It is both easy to get started with only knowing the basic rules and challenging to think strategically and beat your opponent by your analytical skills.

That is why we chose to build our own chess game application to let even more people enjoy playing it.

2 Getting Started

First of all make sure you have the applications Maven and Java installed on your computer. To start the application first navigate in your console to the file where you saved the provided "schach"-file. Within this file you enter the command to run the game.

If you want to play in the 2D-graphic mode enter *mvn javafx:run* into the console and a window will open where you can start a new chess game. If you want to play a game on your console you enter the command *mvn javafx:run -Dargs="- -no-gui"*.

At the Start you will be asked whether or not you want to play against a Person at your side or a simple Artificial Intelligence. After deciding the chess board will be shown in a new window or printed onto your console in the starting formation.

In the console the White Pieces are always on the bottom of the Board and printed in upper cases, the Black Pieces are on the top and printed in lower cases. In the graphical mode you can choose to rotate the board to always represent the active player on the bottom of the board (when playing against another person).

When you are ready the chess game can begin, always starting with White making the first move.

3 Commands

3.1 CLI

3.1.1 Moving a Piece

If you want to move your Piece, enter the field the Piece is located on into the command line followed by a '-' and the field you wish to move your Piece to.

$$a2 - a4$$

If the move is allowed the Game will tell you by printing your command preceded by an '!' and the new chess board with the Piece moved onto it's new position onto the console:

$$!a2 - a4$$

3.1.2 Beaten Pieces

You can always take a look at the Pieces already beaten in this game. Entering the command

<div align="center">beaten</div>

at any time will generate a list of all beaten Pieces and print it onto the console.

3.1.3 Giving Up

If you really don't want to keep playing or don't see any other solution to your situation you can give up the game by entering

<div align="center">giveUp</div>

int the command line which will end the game and automatically make your opponent the winner of this round.

3.2 GUI

3.2.1 Moving a Piece

If you want to move a Piece click on a Piece of your Colour and afterwards on an unoccupied Square. The option *Highlight* is turned on by default so all moves you can do with this Piece are highlighted on the chessboard. You can turn this off in the Options-Menu. If you click on a highlighted Square your Piece will move there. When you click on a not highlighted Square or you've turned off the highlighting and the move to your selected Square is not allowed a notification will pop up why the move is not possible and you can choose another Square.

3.2.2 Beaten Pieces

All beaten pieces are displayed on the bottom of the Window in chronological order.

3.2.3 Options

To change the settings of the Game select the Options-Button on the right margin of the window.

- Rotation: Turns the rotation of the chessboard on/off.

- Highlight: Turns highlighting of possible Moves on/off.

- Change Selection: Turns the possibility of selecting a new Piece after you already selected one on/off.

- Check: Turns the notification on/off showing if a Player is in check.

3.2.4 Move History

To take a look at every Move already taken place in the current game, just press the *Move History*-Button.

4 Forbidden Moves

4.1 CLI

4.1.1 Invalid Move

Accidentally entering a syntactically wrong command or choosing a field that doesn't exist on the chess board will result in the game telling you that this was an invalid Move by printing

<div align="center">

!Invalid move

</div>

onto the console and letting you try again.

4.1.2 Not Allowed Move

When you enter a valid command into the console the Game will let you know by printing onto the console

<div align="center">

!Move not allowed

</div>

and a specific message elaborating why the Move was not allowed to help you choose your next Move:

- The Piece you're trying to move is not your Piece:

<div align="center">

This is not your Piece to move!

</div>

- The field you selected has no Piece on it:

<div align="center">

There is no Piece to move!

</div>

- Making the field your selected Piece stands on the destination of it:

<div align="center">

You have to move!

</div>

- Trying to attack a Piece that belongs to you:

<div align="center">

You cannot attack your own Piece!

</div>

- The move would put your own King in check:

<div align="center">

WHITE/BLACK would be in check!

</div>

Now you can try again and enter another Move.

4.2 GUI

4.2.1 Not Allowed Moves

There are different types of notifications when trying to accomplish an not allowed Move. They are displayed here:

- It is not allowed to Move a Piece which is not your Colour.

$$Selected\ Piece\ is\ not\ your\ Colour!$$

- You can't select an empty Square.

$$There\ is\ no\ Piece\ to\ move!$$

- You can't not Move. So you have to select two different Squares.

$$Move\ not\ allowed:\ Possible!$$

- If the Button *Change Selection* is turned off you can't select a different Piece after already having clicking on one.

$$You can't select another piece!$$

- And finally you can't do a Move which would endanger or expose your own King.

$$Move\ not\ allowed:\ Your\ King\ would\ be\ in\ Check!$$

- If the Button *Highlight* is on and you select a Piece which cannot move, you get an alert when clicking on the Piece.

$$This\ Piece\ cannot\ move.\ Try\ another!$$

If it is turned off you get a *Move Not Allowed*-Notification only after you selected a second Square to move to.

5 The End of the Game

There are three situations which can occur to end the Game:

- one of the Players gives up,

- one player is checkmate by not being able to rescue their King from being in check

- a draw occurs: no one is in check but every move the current Player can make would put their King into being in check.

This will end the Game and a message will appear declaring the Winner and Loser of the Game.