

MINI CAMELOT

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I. PROGRAMMING LANGUAGE USED :

This game was written in Java. Eclipse software is used to write the Program code and also it's run in Eclipse.

How to run the program:

- Import the Project to Eclipse by choosing to make a project using existing code.
- After importing the project directly go the mini_camelot package in the src folder and right click on the Main.java and say Run as Java Application.
- Now the output can be seen in the GUI and also I've Implemented some things like max pruning and min pruning to be displayed in the Console.
- If statistics don't needed to be checked you can directly double click on the Runnable JAR file.

II. DIFFICULTY AND EVALUATE FUNCTIONS:

- In this game I've given an option to the user to choose if he wants to play as White or Black color piece.
- This program runs in three Difficulty phases which are used to make the Computer Player think more ahead depending on the difficulty chosen.

These are the three difficulty levels.

- Easy – max depth is passed as 1 if this level is selected.
 - Medium – max depth is passed as 2
 - Hard- max depth is passed as 4
- The cutoff function is used to cutoff the search if the search time is more than 10 seconds or the depth is equal to 0. If the difficulty hard is chosen then the algorithm is cutoff when it takes more than 10 seconds to calculate the best move.
 - For evaluating the move I've given position weights for black pieces and white pieces. When the moves are evaluated the best move is selected depending on the maximum value of the position weights. The weights I've given are different for White and Black pieces so that they try to reach the goal.
 - The player or the computer wins if they occupy at least one of their opponent's castle or if all of the opponent's pieces are captured.
 - For playing the game you can directly drag the pieces into the square you wanted to move your piece. Only all the valid moves when you select the piece are shown in green color outline and the previous move is shown in yellow outline.
 - Move rules. A piece can move either horizontally, vertically, or diagonally in three ways:
 - Plain move: move into an empty adjacent square in any direction.
 - Canter move: one leaping move over an adjacent friendly piece to an empty square immediately beyond. Multiple successive leaps over a player's own pieces are not allowed. Canter move is optional and not obligatory.
 - Capturing move: jump over an adjacent enemy piece to an empty square immediately beyond. The enemy piece is captured and removed from the board. Multiple successive jumping moves are not allowed.