Chessgame database statistics

# Task

In this task we were given to use a file that contains 2600 chess games in a pgn format (Portable Game Notation). The objective of this assignment was to design a Python script that loads these games, perform various statistics on them, a display the results at a suitable format. This document displays some of the results that we find most useful for displaying the main functionality of the script. This means that although many of the functions have many parameters that can be changed by the user we have used parameters that showcases the functionality best. All of the data for the tables and the images used are also stored in the .zip file.

# Tables

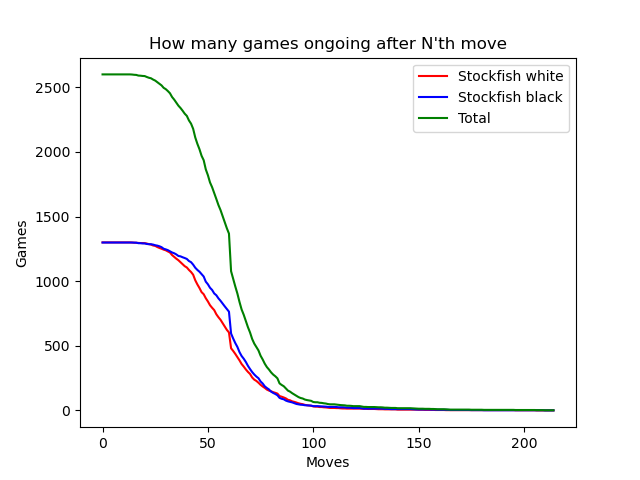
Table regarding number of games won, lost and remis by Stockfish

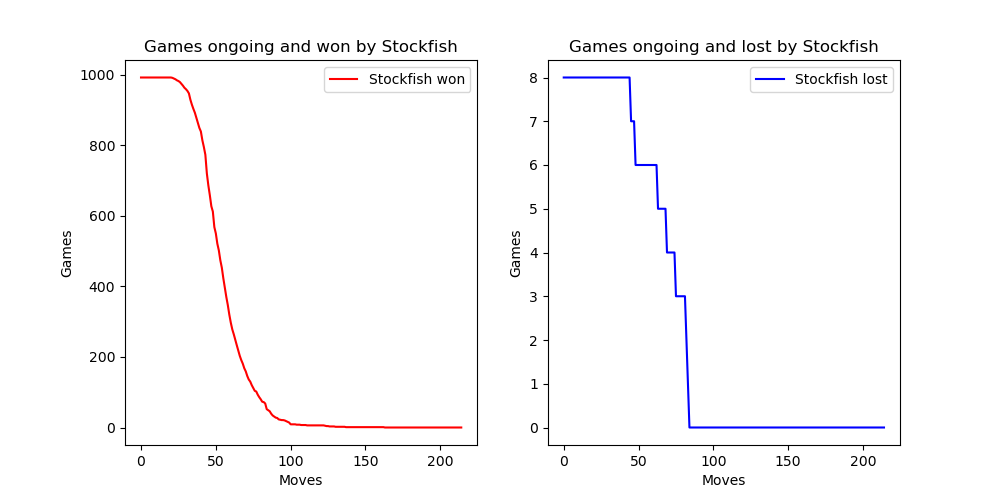
|  |  |  |
| --- | --- | --- |
| Won | Lost | Remis |
| 992 | 8 | 1599 |

Table regarding number of games won by Stockfish with white or black

|  |  |
| --- | --- |
| Won with white | Won with black |
| 698 | 300 |

# Plots





# Tables statistics

Table regarding mean of the number of moves in a game

|  |  |
| --- | --- |
| Mean of: | Mean |
| All the games in total | 60.321 |
| Games where Stockfish was white | 58.762 |
| Games where Stockfish was white | 61.881 |
| Games where Stockfish won | 55.078 |
| Games where Stockfish lost | 68.625 |

Table regarding standard of the number of moves in a game

|  |  |
| --- | --- |
| Standard deviation of: | Standard deviation |
| All the games in total | 19.586 |
| Games where Stockfish was white | 19.78 |
| Games where Stockfish was white | 19.272 |
| Games where Stockfish won | 16.673 |
| Games where Stockfish lost | 15.482 |

Table regarding different openings played and the result in each of these. In this table we look at the openings that have been played more than 20 times

|  |  |  |  |
| --- | --- | --- | --- |
| Opening | White won | Black won | Remis |
| Nimzo-Indian | 22 | 13 | 43 |
| Sicilian | 151 | 89 | 342 |
| QGA | 7 | 3 | 20 |
| QGD | 28 | 9 | 83 |
| Budapest | 9 | 0 | 17 |
| Queen's pawn game | 17 | 8 | 44 |
| French | 42 | 11 | 77 |
| Ruy Lopez | 47 | 15 | 102 |
| English opening | 20 | 12 | 56 |
| Gruenfeld | 8 | 4 | 28 |
| Reti opening | 12 | 4 | 26 |
| Caro-Kann | 36 | 11 | 75 |
| English | 43 | 17 | 93 |
| Queen's Indian | 26 | 10 | 66 |
| QGD semi-Slav | 18 | 8 | 50 |
| Petrov | 8 | 0 | 19 |
| King's Indian | 31 | 7 | 47 |
| Catalan | 10 | 0 | 20 |
| Sicilian defence | 13 | 2 | 19 |
| Reti | 9 | 8 | 21 |
| Robatsch (modern) defence | 7 | 8 | 8 |
| QGD Slav | 12 | 4 | 36 |

# Trees

Trees for two different openenings with two different depths.

