Mailbox Chess Engine

Requirements: Windows or Linux Environment

Quick Install:

1. Download the latest **chess.zip** release for Windows or Linux
2. Extract the files
3. Run chess.exe
   - If permissions denied, run `chmod 700 <path to chess.exe>` and try running again

Build Yourself:

1. Clone the repo or download the source code in a Linux environment
2. Install the requirements: `sudo apt-get install libsfml-dev` and `sudo apt-get install build-essential`
3. Run the makefile in command shell or IDE terminal
   - Note: Neccesary changes to install location of SFML might be required in the makefile

Features

- AI opponent
  - Different opening playbooks
  - Built on minimax algorithm, optimized with alpha-beta pruning
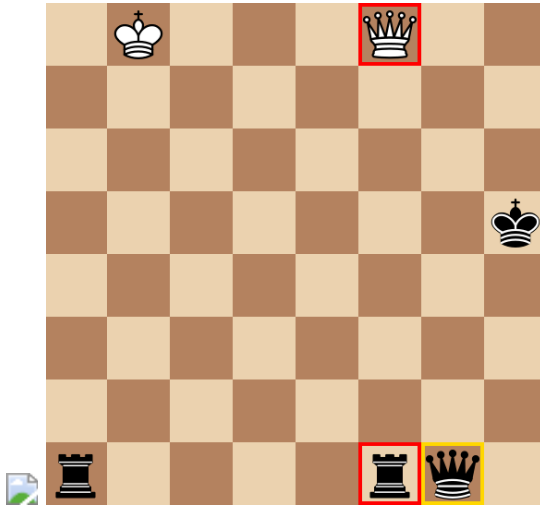
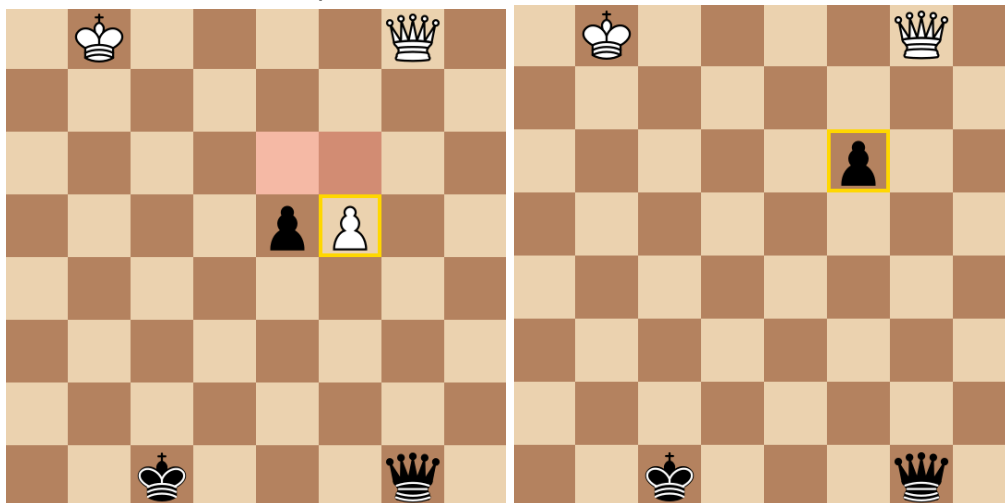- Display legal moves

- Alert when king is in check

Special Moves

- **Castling**

    - Moving the king two squares toward a rook and then moving the rook to the square that the king passed over
    - Cannot castle into or through check or checkmate
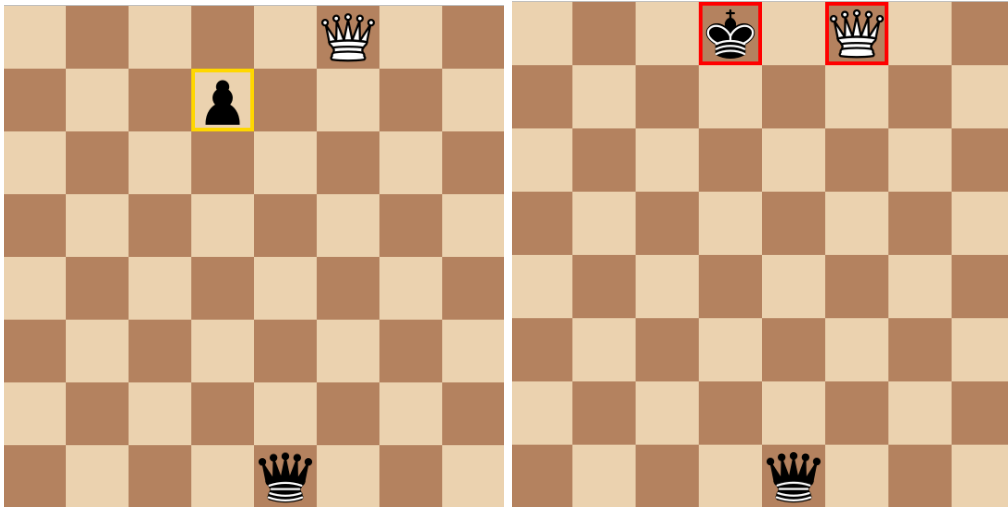
o Before and after example:

- **En Passant**

  o The capture by a pawn of an enemy pawn on the same row and adjacent column that has just made a two-square advance

  o Before and after example:

- **Pawn Promotion**

  o The replacement of a pawn with a new piece when the pawn is moved to its farthest possible square

- Before and after example:

Video