

## Othello Testing

Below is some basic testing for our Othello program carried out on the lab machines in the Jack Cole building on Linux. In the output column terminal output is included in addition to image names of screenshots in the “Screenshots” directory which represent the board state produced from each test where relevant. Testing for network play and AI use is not covered in depth here as it is difficult to demonstrate their functionality with screenshots so it is recommended you try them out yourself.

| Input                                 | Reason  | Output  |
|---------------------------------------|---|---|
| dist/build/othello/othello            | Starting position   | start.png   |
| Clicking position (5,7)               | Invalid move from starting position                                     | Left button pressed at: (5,7)<br>Invalid move   |
| Clicking position (4,2)               | Valid move from starting position                                       | Left button pressed at: (4,2)<br>Valid move<br><br>validMove.png                        |
| dist/build/othello/othello -s 2       | Size argument too small   | othello: Size must be at least 4, no more than 16 and even                              |
| dist/build/othello/othello -s 18      | Size argument too big   | othello: Size must be at least 4, no more than 16 and even                              |
| dist/build/othello/othello -s 7       | Odd size argument   | othello: Size must be at least 4, no more than 16 and even                              |
| dist/build/othello/othello -s 4       | Min size  | minStart.png  |
| dist/build/othello/othello -s 16      | Max size  | maxStart.png  |
| u key after starting move             | Undoing a move (timer is undone as well)                                | Key 'u' down<br>Reverted to previous player turn<br><br>beforeUndo.png<br>afterUndo.png |
| u key before any moves have been made | Undoing when there have been no moves                                   | Key 'u' down<br>Cannot undo further back than current stateu                            |
| dist/build/othello/othello -r         | Alternate starting positions  | beforePlacement.png<br>afterPlacement.png   |
| dist/build/othello/othello -h         | Start game with hints turned on so that available moves are highlighted | hintsStart.png<br>hintsMidGame.png  |

|  |  |  |
|--|--|--|
| dist/build/othello/othello -r -h   | Hints with choosing start position                                 | hintsCooseStart1.png<br>hintsChooseStart2.png  |
| Pressing h in game   | Change hint settings in game rather than setting argument          | beforeHintsOn.png<br>Key 'h' down<br>afterHintsOn.png  |
| Press p in game  | Pauses the game  | Key 'p' down<br>paused.png   |
| Pressing s mid game then starting a new game and pressing l  | Should be able to save and load a game                             | savedState.png<br>Key 's' down<br>Saving game state<br>beforeLoad.png<br>Key 'l' down<br>Loading saved game state<br>afterLoad.png |
| <Computer 1><br>dist/build/othello/othello -server -s 6 -h<br><br><Computer 2><br>dist/build/othello/othello -client pc3-032-l.cs.st-andrews.ac.uk | Setting up server, timers disabled for both players                | serverSide.png<br>clientSide.png<br><br>(Both are the same, starting world successfully transferred to client)                     |
| White player winning 4x4 game  | Should display screen stating white wins as they had more pieces   | whiteWins.png  |
| Black player running out of time   | Should display white wins screen even if black had more pieces     | outOfTime.png  |
| 4x4 game ending with both players with same number of pieces   | Game ending with players with equal pieces should result in a draw | draw.png   |