# Software Development Coursework

The final mark should be allocated to the developers as 50:50.

## Development log

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date | Driver | Observer | Duration(hours) | Signed by |
| 14/10 | Ollie (194002) | Charlie (193449) | 2 | 194002  193449 |
| 18/10 | Charlie (193449) | Ollie (194002) | 3 | 194002  193449 |
| 20/10 | Ollie (194002) | Charlie (193449) | 2 | 194002  193449 |
| 21/10 | Charlie (193449) | Ollie (194002) | 1 | 194002  193449 |
| 25/10 | Charlie (193449) | Ollie (194002) | 2 | 194002  193449 |
| 26/10 | Ollie (194002) | Charlie (193449) | 2 | 194002  193449 |
| 27/10 | Charlie (193449) | Ollie (194002) | 2 | 194002  193449 |
| 29/10 | Ollie (194002) | Charlie (193449) | 3 | 194002  193449 |
| 31/10 | Charlie (193449) | Ollie (194002) | 2 | 194002  193449 |
| 08/11 | Ollie (194002) | Charlie (193449) | 1 | 194002  193449 |
| 10/11 | Ollie (194002) | Charlie (193449) | 1 | 194002  193449 |
| 10/11 | Charlie (193449) | Ollie (194002) | 1 | 194002  193449 |

## Design choice

Stopping the game once a player has won, we used a volatile variable so that once the winner of the game is announced all threads would stop, hence stopping the overall game.

We thought that the game should run as each player taking their turn one after the other, making it so that the game is fair. We used an atomic variable so that each thread will run one after the other so that each play takes a turn.

Known performance issues:

* The program is computationally intense when writing to a log file for each player, and what they do in each round. The reason this is happening as a result of each game lasting a long a very long time. This makes the files recording, the moves of each player, extremely large.

### Design choice with respect to testing

For the testing we have used the JUnit 4 framework.

*A document detailing the design choice and reasons with respect to your tests of your production code. You may use either of the JUnit 4.x or 5.x frameworks, but you should explicitly detail which framework you are using in your document. This part of the document should be no more than three sides of A4.*