**CCA Assessment Write-Up:**

Time taken (s)

**Conclusion:**

Both AIs make exactly the same moves at the same ply (when no randomness is added), however, the one with alpha-beta pruning implemented makes turns much faster, especially on larger plies (as more moves can be pruned.) This is because the alpha-beta AI avoids calculating the scores moves that it knows will not be chosen if both players play optimally. Therefore, it ends up having equal win-rates to that of the standard minimax AI when playing against it, almost always winning when going first, and almost always losing when going second.

In a tournament, the obvious choice would be the alpha-beta AI due to its higher turn-making speed with no negative effect on performance. The optimal ply would probably be 3 or 4 as any higher gets so exponentially towards lengths of time that would probably not be allowed (the first turn with the alpha-beta AI at 5 ply takes 13 seconds.)