CONNECT-K FINAL REPORT <mark>**[TEMPLATE --- *do not exceed two pages total]***</mark>

Partner Names and ID Numbers:_____

Team Name:_____

Note: this assumes you used minimax search; if your submission uses something else (MCTS, etc.), please still answer these questions for the earlier versions of your code that did do minimax, and additionally see Q6.

1. Describe your heuristic evaluation function, Eval(S). This is where the most "smarts" comes into your AI, so describe this function in more detail than other sections. Did you use a weighted sum of board features? If so, what features? How did you set the weights? Did you simply write a block of code to make a good guess? If so, what did it do? Did you try other heuristics, and how did you decide which to use? Please use a half a page of text or more for your answer to this question.

2. Describe how you implemented Alpha-Beta pruning. Please evaluate & discuss how much it helped you, if any; you should be able to turn it off easily (e.g., by commenting out the shortcut returns when alpha >= beta in your recursion functions).

3. Describe how you implemented Iterative Deepening Search (IDS) and time management. Were there any surprises, difficulties, or innovative ideas?

4. Describe how you selected the order of children during IDS. Did you remember the values associated with each node in the game tree at the previous IDS depth limit, then sort the children at each node of the current iteration so that the best values for each player are (usually) found first? Did you only remember the best move from a given board? Describe the data structure you used. Did it help?

5. [Optional] Did you try variable depth searches? If so, describe your quiescence test, Quiescence(S). Did it help?

6. [Optional] If you implemented an alternative strategy search method, such as MCTS, please describe what you did, how you implemented it, and how you decided whether to use it or your minimax implementation in the final submission.