Team SWEGGERZ
Melody Chang and Susie Chac
912110826, 912004424

Assignment 2: Connect Four Part 1

a. For our evaluation, we took into account all the possible configurations to get 4-in-a-row (connect 4). For a row of 6, there are 3 possibilities of getting 4-in-a-row, and then we would multiply that by 7 rows to get 21. Using the similar approach for the columns and diagonal rows, we get a total number of 69 possibilities. We take these winning configurations and compare them to the current game board to score players' points. The number of points (out of 4) reflect how close they are to a winning configuration. If we play first, our strategy is to play offense and seek an odd row attack while preventing the opponent's odd row threats and even row threats below our own odd threats.

b. Evaluation function:

$$Score = 10 * (P1odd + P1even) - 10 * (P2odd + P2even) + P1tot - P2tot$$

P1odd = the number of Player 1's odd threats (3-in-a-row)
P1even = the number of Player 1's even threats (3-in-a-row)
P1tot = the total number of Player 1's coins on the game board

P2odd = the number of Player 2's odd threats (3-in-a-row)
P2even = the number of Player 2's even threats (3-in-a-row)
P2tot = the total number of Player 2's coins on the game board

c. - - - - - - -
- - - - - - -
- - - - - - -
- o - - - - -
x x o-x - -
o x xoo- -

Assuming that X is playing max, the evaluation function will return -10.