CSCI 4341
Group Assignment 4
Group:

The interface. For your game, it is helpful to have a digital version that is flexible and will allow you to test your A.I. when we start implementing it. The interface should be written in one of the following: Python, Java, HTML/CSS/Javascript, or C#. Other languages are possible, but you should get approval first. <u>The submission is a zip file with the sources and a README.txt that gives the group information and installation instructions – needed libraries, etc.</u>

The interface should incorporate the following options:
1. a basic help menu to describe how to play the game and how the controls work,
2. a playable game, which for now can assume that two players are at the computer (no A.I. needed),
3. some variable aspects to explore, e.g., board size, number of pieces, number of players, winning conditions, etc.,
4. some customization options, e.g., themes/skins to change colors, etc.
5. an "About" area to give the group information and game background (creator, etc.).

We will add the programs to the webpage so that the other groups can see/play the games. The code will not be included on the webpage- only the executables. If the game is webbased, it will have to be hosted somewhere or the code included.

For part 3 above, there are specific customization options I want from each group:

- Group A – Players with different and the same objectives, the ability to choose from all pieces vs. only having 3 or 4 pieces as a "hand" that both players can see.
- Group B – The ability to change the board such as the shape (triangle, square, etc), and the number needed to form a mill (3 vs. 4 vs. X which means there would be more layers in the interior). This may be difficult, so only implementing one of the options now is fine.
- Group C – Arbitrary board size, number of pieces, maybe a limit on height.
- Group D – Arbitrary board size, specific number of each size piece (allowing 3 and 3 of only two sizes or 1 of 6 different sizes, etc.), number of players.
- Group E – Modifications to the number of pieces playable per turn, the winning conditions (requiring 2+ straight edges or 2 adjacent straight edges, making a specific closed pattern, etc.).
- Group F – Board size and thus more symbols and combinations, winning condition

(if on a larger board maybe 4 in a row still wins or you need 5 in a row, etc.), multiple players.

- Group G – Board size and the number of cells required for an entanglement (2, 4, etc.), and possibly more players.
- Group H – Board size and board arrangements, the number of each type of piece (3 of each, or only 1 of the repel type, etc.), multiple players.
- Group I – The number of pieces of each type, the number of available white pieces, the board containment area (6x6, etc.).
- Group J – The board size and shape, the number of symbols/numbers so more combinations exist, and maybe the number of players.
- Group K – The board size, winning conditions based on larger numbers in a row, e.g. 6 in a row win, but 5 in a row loses, etc., and the number of players in a game.

Not all of these options have to be finished, but I would like to see some of them in place (or a similar type of option). These will help you explore how small variations can drastically change the game and the strategy.