Squish Friends APCS pd3

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Final Project Proposal

Squishy Chess

We plan to make a chess game in which the player plays against another player. We will use an 8 times 8 2D-array to set up the board and after each move is made, the new board pattern would be displayed visually. A singular capitalized letter will denote a piece, and an empty list will denote an open space. To differentiate between the two players the board will flip its perspective after every move and display it accordingly. SquishyChess will be the name of the main super class, and it will instantiate instances of the sub-classes needed, such as the board, player-one, and player-two. Players one and two will be instances of a player class that we will create next. Each instance of player will have as attributes: the tally of the number of pieces it has, whether or not it is in checkmate, and the piece it wishes to move.

The different chess pieces will demonstrate class inheritance. The parent class will be named piece, and each unique chess piece will extend piece. Each piece will have a mathematical way to calculate its move-pattern. Furthermore, each piece class will have a Boolean variable denoting if it is captured / usable, and the coordinates of both the target and original location. It will also contain a method that returns a Boolean denoting whether or not the target coordinates given to that piece is a legitimate move. If a move happens to be illegal, an error message is returned. There are also other limitations - such as a king has to be out of check for any other moves to happen or a checkmate that rests the board. We anticipate the most challenging aspects of the program to be determining ways to mathematically calculate if moves are legal for with pieces (especially the knight and bishop), and analyzing whether or not the player is checkmated.