CashCoders APCS 1 pd1
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Final Project Proposal

Connect Four

For our project, we will simulate the popular board game 'Connect Four.' Our game will start in the terminal where the system will ask the user which game mode to play in. The first option "PVP" will be a player versus player mode where two users will face off against each other. The second option will be "vs AI", a single player mode where the user will play against the computer. The game will be start with an empty String[7][6] board and each player will take turns filling it up with their respective tokens. First turn will be decided via a random number generator. Once a player manages to connect four slots with their tokens, either horizontally, vertically, or diagonally, they win the game. This condition is applied to all possible positions on the board.

For "PVP", the players will take turns choosing a column (labeled 0 through 6) to drop their token in. Said token will land one unit above the last occupied vertical index. After which, the double array will be updated and the program will scan through the board to see if the winning conditions have been met. If not, the game will continue and the updated board will be printed. If the conditions are met, the terminal will state the victor and end the program. In the scenario where the board is filled while either player has yet to meet the winning condition, the game will result in a draw, ending the program.

For the second part of the project, we will create a player vs AI mode. This game mode will have the same basic rules as the PvP. In this case, however, only one player will face off against an AI. The AI will look through the double array and choose what it thinks will give itself victory based on the conditionals that we will code into it. The AI will have two difficulty settings, intermediate and master.