Period: 6
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Title: Minesweeper
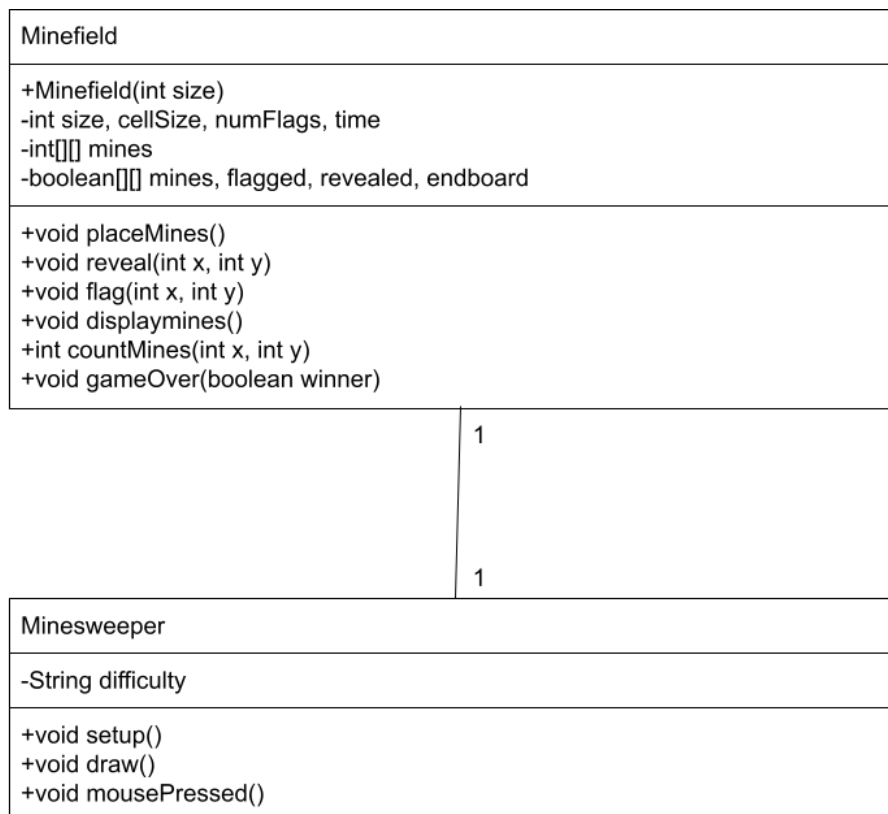
INTRO
For my final project I will be making a game called Minesweeper. Minesweeper is a classic game in which the player must clear a randomly generated minefield. The goal of the game is to use the hints to click every square on the board with no mines on it, leaving the mines untouched.

HOW TO PLAY
The field is initially empty squares of grass, and once any square is clicked the game starts. When a square is clicked, the grass is cut, and the square becomes open. Numbers are written on open squares, which indicate the number of mines in the perimeter of that square (the square is blank for 0). If the clicked square has a mine on it, the player loses and must restart.

UML

Minefield
+Minefield(int size) -int size, cellSize, numFlags, time -int[][] mines -boolean[][] mines, flagged, revealed, endboard
+void placeMines() +void reveal(int x, int y) +void flag(int x, int y) +void displaymines() +int countMines(int x, int y) +void gameOver(boolean winner)

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Minesweeper
-String difficulty
+void setup() +void draw() +void mousePressed()

CURRENT FUNCTIONALITIES

as of 6/3/24:

MINESWEEPER CLASS:
setup()
mousePressed()
most of draw()
- initial board is displayed, along with numbers on each revealed square. Still working on showing flags and making text look nice

MINEFIELD CLASS:
MineField(int size) (constructor)
placeMines()
displayMines()
reveal(int x, int y)
flag(int x, int y)
countMines(int x, int y)

CHALLENGES:
I have figured out how to convert mouse coordinates into their corresponding 2D array positions, and I am now working on the visual aspects of the game such as draw() and flag.

NOTE: 2D array position of the pixel at (x, y) is mines[x / cellSize][y / cellSize]