Section 11 of the PDF refers to Full Points, Half Points (Partial Credits), and No Points for each **FEATURE**. Feature refers to Board Config, Flags, Tile Revealing... Each item listed under the feature will be the partial credits you can earn by correctly implementing them. Meaning if you are not able to display mine sprite, you can still earn other points under the Flags feature, but will receive ZERO points for displaying mine sprite.

# 1. Board Config (10 points)

- a. Welcome window changes size based on values set in config file
- b. Game window changes size based on values set in config file
- c. Number of mines matches the value set in config file
- d. Leaderboard window changes size based on values set in config file

# 2. Flags (10 points)

- a. Right-clicking on a hidden tile sets a flag on it
- b. Right-clicking on a flagged tile removes the flag
- c. Left-clicking a tile with a flag has no effect
- d. Flagged tiles cannot be revealed in any way (meaning the recursive reveal will not open the flagged tiles)

# 3. Tile Revealing (15 points)

- a. Clicking on a number tile, it reveals a number
- b. Clicking on a mine tile, it reveals a mine
- c. Clicking on a non-numerical or non-mine tile, it reveals a revealed tile
- d. If it has 0 adjacent mines reveal all neighboring tiles which are not currently revealed, not mines or flags, and then each of those neighbors goes through this process as well

## 4. Tile Display (10 points)

- a. Able to display mine sprite
- b. Able to display revealed tile
- c. Able to display hidden tile
- d. Able to display numbers (1 to 8)

## 5. Mines Remaining (10 points)

- a. There is a counter of how many mines are on the board
- b. Adding/removing flags from the tiles affects the counter
- c. The remaining flags (counter) CAN go negative

## 6. Victory (10 points)

- a. Revealing all non-mine tiles ends the game
- b. When the game ends, all remaining tiles are flagged
- c. The counter is set to 0
- d. Smiley face changes to sunglasses face
- e. No further interactions with the tiles are possible

- f. The player CAN check the leaderboard by pressing the leaderboard button
- g. If the player wins a game and has a better time than any other person on this leaderboard, then their name, time, and placement will be displayed on the leaderboard screen with a \*
- h. The debug button and pause/play button shouldn't do anything
- i. The player CAN click the sunglasses face to start a new game

## 7. Defeat (10 points)

- a. Clicking on a mine ends the game
- b. The smiley face changes to the dead face
- c. All tiles with mine are revealed
- d. The mine revealed is on top of flag (if there was a flag on the tile)
- e. No further interactions with the tiles are possible
- f. The player CAN check the leaderboard using the leaderboard button
- g. The debug button and pause/play button shouldn't do anything
- h. The player CAN click the dead smiley face to start a new game

## 8. Random Mine (10 points)

a. When the game starts and when the board is reset by clicking on the smiley face button, the mines are randomly generated/placed on the board

# 9. Timer and Pause Button (15 points)

- a. Timer counter sprites exist in the window
- b. The timer is correctly implemented in the game window (meaning that it counts up)
- c. When click on the pause button, the counter pauses
- d. When paused, the only buttons that should work are the play button, leaderboard button, and the face button
- e. All tiles should become "tile\_revealed.png" sprites (regardless of the debug mode status)
- f. When the player clicks the play button, the game continues where it was, all tiles revert back to their prior states
- g. The timer starts where it was before

## 10. Welcome Window (15 points)

- a. Player can enter the name
- b. Cannot enter more than 10 characters
- c. Only alphabet, no numbers/special characters allowed
- d. User can see the cursor
- e. Once the user presses the "enter" key, the welcome window closes and the game window launch
- f. When the player closes the welcome window, the game window won't open
- g. If there are no characters entered, the "enter" key should not do anything

- h. User can see the characters as they type and press backspace should remove the last character
- i. Names are converted to the right format automatically on the screen (bRuCe -> Bruce)

# 11. Leaderboard (15 points)

- a. When clicking the leaderboard button, the leaderboard window appears and shows the current leaders in the board (top 5)
- b. All tiles should become "tile\_revealed.png" sprites (regardless of the debug mode status)
- c. Closing the leaderboard button will close the leaderboard window and show the game window beneath, along with all tiles returning to their prior states
- d. When updating the leaderboard.txt, only the top five players are written in the file
- e. The \* is not written into the leaderboard.txt

#### 12. Deduction

- a. Used global variable
- b. Have extra files included in the submission beyond requested
  - i. Including doing "#include file.h" if file.h doesn't exist in submission
- c. Not using the CORRECT relative path
  - i. Even if a relative path is used, if it is incorrect, you will get points off
- d. Missing README.md from the submission
- e. Welcome Window is not properly formatted
  - i. This includes the name provided by the user is not CENTERED at all time
- f. Game Window is not properly formatted
- g. Leaderboard Window is not properly formatted
- h. Sprite is not correctly drawn
  - i. Any of the following will result in a deduction
    - 1. White square problem
    - 2. Flag on top of the white square
    - 3. Number on top of the white square
    - 4. Mine on top of the white square