Third Project: A version of mine-sweeper

In this project, we build together a mine-sweeper. You can find the game minesweeper on Windows machine though for Windows 10, you need to download them from the Microsoft App Store. You can also find many versions implemented on the net as well as opportunities to play it. (For this reason, only solutions that build on the schema that you are given will count.)

The game of minesweeper consists of identifying hidden mines in a rectangular array of square boxes. The player frees squares by clicking on them. If the clicked square contains a mine, then the player has lost (her life and the game). The freed field will contain the number of mines in the adjacent fields.

You should follow the video to understand the part of the code that you are given. You are to change the game so that the playing field is 25 by 50 and to include menus that allow the user to reset / start a new game and also to select the number of mines.

The resulting game is simple enough to not warrant separating game logic from graphics. Instead, the bulk of the implementation is in handling mouse clicks.

In general, when you are programming with Tkinter, it is important that you test your program frequently. I recommend not adding more than a couple of related lines before testing your program. Also, it is very helpful to write to the console. Even statements such as "function this-or-that has been called" can be important to figure out why your program does not behave as expected. For example, if you start the main-loop before you create widgets, no widgets will be created, and you will see this because the widget creation function will not be called.

Tasks

(1)   Change the game field to 25 by 50 squares
(2) Add items so that (a) the user can reset the game and (b) select a different number of mines
(3) Add an event handler so that the user can use a right-click (or two fingers on a Mac trackpad) in order to mark something a bomb.