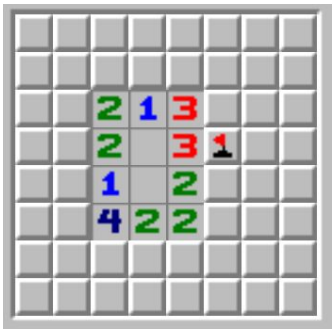
PSL Internship programming challenge

Hi, thank you for participating in the internship process for PSL. This challenge is designed so we can learn a little bit more about you, your knowledge and your interests in technology. You can use whatever programming language you feel more comfortable with (please don't use brainfuck). Hopefully you will enjoy this challenge and learn a bit. Good luck.

Using your favorite programming language, implement a console version of the Minesweeper game, following these guidelines:

- As initial user input, your program must ask for the board's height, width, and number of mines (e.g. an input of "8 15 10" determines a 8x15 game board with 10 mines; that is, 120 cells, with 10 random cells containing mines).
- After the initial input, the user must be presented with the empty game board on the console, and a prompt for selecting a cell.
- The following characters are the ones you should use for the representation of the board:
    - `'.'` : Unselected cell (can be uncovered or marked)
    - `'-'` : Disable cell (a cell that can not be modified by the user)
    - `'*'` : Represents a mine
    - `'P'` : Represents a flag, used when the user marks a cell (use your imagination, it's a flag)
    - `'1' .. '9'` : Represents the number of adjacent mines to an specific cell
    - `' ' (space)` : Separates each column
    - Example:



```
. . . . . . . .
. . . . . . . .
. . 2 1 3 . . .
. . 2 - 3 P . .
. . 1 - 2 . . .
. . 4 2 2 . . .
. . . . . . . .
. . . . . . . .
```

- Each round, the user can select one cell by entering its row and column index and an action, either uncover or mark (e.g. and input of "3 6 U" means the cell in position 3,6 must be uncovered. An input of "8 9 M" means the cell in position 8,9 must be marked as containing a mine).
    - When a cell is uncovered by the user, two things can happen:
        - **The cell contains a mine:** In this case, the game is over, and the game board is shown in its current state and also displaying all the uncovered mines in the cells they were hidden in.
        - **The cell doesn't contain a mine:** In this case, a portion of the board starting at the cell that the user selected (that don't contain mines) is

uncovered, with each border cell displaying the number of mines adjacent to it. For reference http://minesweeperonline.com/#
    - When a square is marked, it means the user thinks there is a mine in there. The game is won when all (and ONLY) the squares containing mines are marked by the user. If, say, the user marked 11 squared but there are only 10 mines, the game must not end.
- Every round, an updated version of the game board must be displayed.
- Software engineering best practices are important for this challenge. Use all that you know.

Additional considerations:

- Specify how to execute your program from a console (Things like “Download Eclipse IDE, import project there and click the big green arrow” will not be taken into consideration).
    - e.g. “My program runs on Python 3.7, run `$ python minesweeper.py` to start”
- The solution of this challenge should be uploaded in a github repository, with its execution instructions and additional comments in the README.md (hint: don’t forget your .gitignore)

Bonus

- Unit testing using a proper framework or library for your selected language will be greatly appreciated.