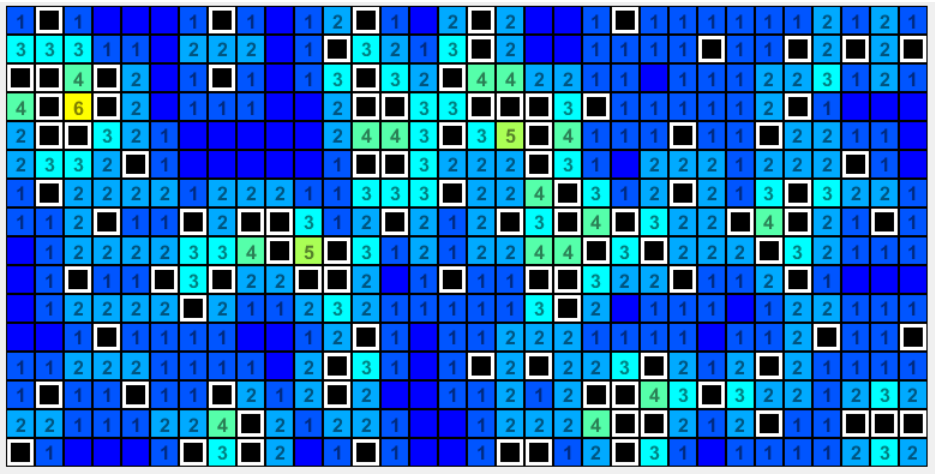
MATLAB Programming NCTU Fall 2017 Assignment#1 due 2017/11/2

This assignment will let you play with a little bit of image, plotting, and function. The task is to create and display a board similar to the classical view of the **MineSweeper** game. An example output image is shown below for a 16x32 board and 100 mines:



Below are the specifications and hints of the tasks:

- Implement a function that takes two inputs: The first input is a 2-element vector representing the board size (`[16 32]` for the example above), and the second input is the number of mines.
- Make an array representing the mine field, and randomly place the specified number of mines in the array. Hint: Use **`randperm`** to get random permutation so that you do not need to worry about duplicates. This will be explained in class.
- For each non-mine spots, count the number of mines in its 8 nearest neighbors.
- Use the mine count to create an indexed image, with each pixel expanded to a square block.
- Use **`ind2rgb`**, with a color map, to generate the initial image for output.
- Draw the mines on the image, and draw the borders between mine blocks.
- Show the image using **`imshow`**.
- Use **`text`** to add the mine counts to the display, skipping blocks where the counts are zero.
- Note: The use of loops is only allowed in the steps of drawing mines, cell borders, and texts.

Submission: Submit your code (m file) through e3. Name your file **`P1_#######.m`**, where the **`#######`** represents your student ID. There will be a three-day grace period after the due date, during which there will be a 10%/day deduction for your grade.

A "copy detection" will be applied to your submissions, and those found to have copied assignments will receive zero points for the assignment.

Your code should include sufficient comments. This will be part of the grade. Include your name and ID at the top of your code.

There will be demo session with the TAs (date/time to be announced later).