

ITP20003 Java Programming

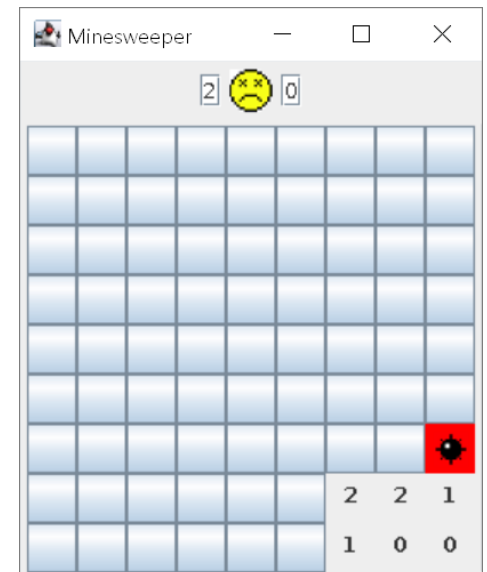
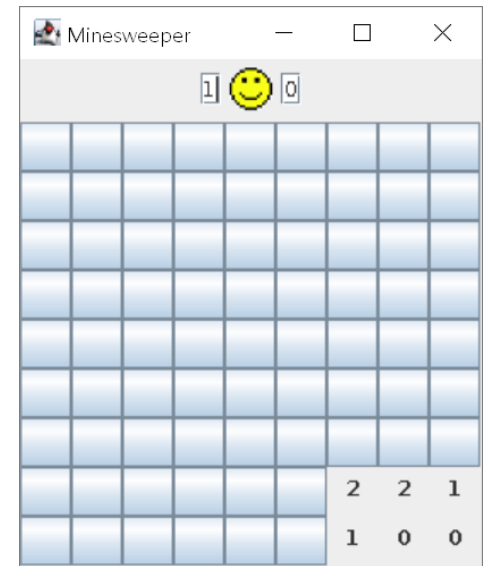
Lab 10. Sweep Mines

M17. Minesweeper (1/3)

- Build a simplified 9x9 Minesweeper game player
 - Complete remaining To-do's in the starter code
- Rules
 - The game board is a grid of 9x9 cells covered with caps.
 - Each cell contains either a number or a mine beneath the cap
 - The number shows how many mines exist in its surrounding cells
 - The player can hit the cap to open a cell (by left-click), or put a flag on the cell suspected to have a mine (by right-click)
 - The player loses a game if the player hit a cell with a mine
 - The player wins a game once the player put flags all and only the cells with mines.

M17. Minesweeper (2/3)

- Layout and interface
 - The smile icon indicates the game status (on-going, lost, or win)
 - The left-side number in the head panel shows the number of clicks made so far
 - The right-side number shows the number of flags placed so far
 - A cap has impression mark once a flag is placed on the cap
 - Once the user right-button-clicks on a flagged cap, the flag will be cancelled (i.e., toggled)



M17. Minesweeper (3/3)

- Opening caps by left-button click
 - For a cell with a mine, removes the cap to show the hidden mine (i.e., loses the game)
 - For a cell with k with $1 \leq k \leq 8$, remove the cap to shows k
 - For a cell with 0, remove the cap and then opens the cap of each surrounding cell with a cap if the cell does not have a mine or flag
 - The opening effect will be propagated when the target cell has 0