Minesweeper – Architecture & Flow Overview

1. Global Architecture Flow

initGame()
  ↓
buildBoard()
  ↓
placeMinesRandomly()
  ↓
setMinesNegsCount()
  ↓
renderBoard()

User Click
  ↓
onCellClicked()
  ↓
Model Update (isRevealed / Game State)
  ↓
renderBoard()

2. Function Responsibilities

buildBoard()
- Creates empty matrix
- Each cell gets:
  minesAroundCount
  isRevealed
  isMine
  isMarked
- Returns board

placeMinesRandomly()
- While placedMines < gLevel.MINES
- Choose random i, j
- If already mine → skip
- Else:
  gBoard[i][j].isMine = true
  placedMines++

setMinesNegsCount()
- Loop through all cells
- For each cell:
  Count neighboring mines
  Update minesAroundCount

renderBoard(board)
- Loop through all cells

- For each cell:
  If isMarked → show flag
  Else if isRevealed:
    If isMine → show bomb
    Else if minesAroundCount > 0 → show number
- Updates DOM

onCellClicked(elCell, i, j)
- If !gGame.isOn → stop
- Set cell.isRevealed = true
- Call renderBoard()

Game State (gGame)
- isOn → controls if clicks allowed
- revealedCount → for win logic (future)
- markedCount → for flags