1. Write a program that reads in m, n, and p and produces an m-by-n boolean array where each element is occupied with probability p. In the minesweeper game, occupied cells represent bombs and empty cells represent safe cells. Print out the array using an asterisk for bombs and a period for safe cells. Then, create an integer two-dimensional array with the number of neighboring bombs (above, below, left, right, or diagonal).

\* \* . . . \* \* 1 0 0

. . . . . 3 3 2 0 0

. \* . . . 1 \* 1 0 0

Write your code so that you have as few special cases as possible to deal with, by using an (m+2)-by-(n+2) boolean array.