Lab 00 – Mine Counter

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# Problem

In this lab we must make a 10x10 array that places 10 mines throughout the board in random locations. Once the mines are placed, it must also calculate the mine value, which is +1 for every mine bordering the square (this includes the corners). The program creates 3 boards, 1 empty one with dashes, one with dashes and the 10 random mines, and then one with the numeric values and all of the mines on the board.

# Solution

For my solution, I first set the constants for the board size and mine amounts as final ints. Then I created a static array for board using type string. In my main method, I first establish a random variable. Then I call 3 voids. The first one creates an empty boar by setting array, and then using 2 for loops one for x and one for y fill the board with “-“. Then it calls the print function with has 2 for loops for x and y and prints out every cell. The next function the main calls is addmines(). Add mines has a counter variable and has a do while loop that keeps running until the counter reaches the set mine count constant. In the loop it makes a random x and y. Then an if statement checks if a mine is there. If there is, it runs the loop again. If not, it sets that spot to a mine and adds to counter. Then it prints out the board using print void. Finally, the count mines function uses a set of 2 for loops, one for x and one for y. It checks if it is first a mine, if it is, it moved to next number in loop. If not, it then runs 8 true false statements which check if a star is in one of the 8 positions. If a star is there, it adds one to the counter. The counter is added up after checking all 8 and assigns the mine count number to the board spot. It is then printed out.

# Implementation Problems Encountered

No problems were encountered in this lab.

# Lab Report Questions

1. Arrays store the memory location for the actual object
2. Arrays are considered objects in Java.