CSE 331 Computer Organization

Within the framework of this assignment, I learned more about compilations for general programming, and I think I improved myself with the algorithm exercise.

In this project, I received a certain array size from the user and had the user fill in the contents of this array with bombs and spaces, and then I received information on how long the operations would continue. I printed the array I received from the user on the screen. Then I printed an output on the screen as if I had bombed all parts of the array. I filled the areas where there were no bombs in the background with the letter x. Then I exploded the bomb areas and wrote dots on the areas that exploded as a result of the explosion. Finally, I converted the indexes that remained as x to the bomb letter o and completed the process.

Algorithm Detail

I made the bomb explosion controls index by index. I started two nested loops and browsed all indexes. I checked whether it was a bomb or not in each of the indexes. If it was not a bomb, I continued. If it was a bomb, I checked if it was at the top layer of the array. If it was not on the top layer, I exploded the top part, that is, put a dot. Then I checked if it was on the far left. If it is on the far left, we cannot blow up the left side. If it is not in the leftmost column, then I explode a left row. It is time to check if it is the one on the far right. If it is on the far right, we cannot detonate it. If it is not on the far right, we see if there is a bomb on the right side of the index. If there is no bomb, we detonate it, but if there is a bomb, we do not detonate it and wait for its turn. Then we will see if it is at the bottom. If it is not at the bottom, we check whether the dot just below is a bomb or not. If it is not a bomb, we will detonate it, but if it is a bomb, it will detonate itself when the time comes. Lastly, since every bomb will explode itself, I exploded its index.

Details of Inputs

First, 2 numbers will be entered to determine the size of the array. The first number is for row and the second number is for column. The enter key must be pressed when each number is entered.

Then inputs will be entered to fill the array whose size you entered. If you want to put a bomb, press letter small o. If you don't want to put a bomb, press the dot. Perform this operation for each index.

Finally, the user will enter input for seconds. When entering seconds, enter a number greater than 1. The first second prints the array you entered on the screen, and the following seconds print the operations performed respectively.