Kiwi Farm

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Description

You are a kiwi farmer that lives on your own kiwis. Kiwis are all that you eat. If you want to not die, you have to harvest and replant your kiwis.

Let's say your kiwi farm is represented by a matrix:

$$\begin{matrix} 4 & 6 & 8 & 9 \\ 0 & 0 & 1 & 0 \\ 7 & 7 & 5 & 6 \\ 2 & 1 & 7 & 7 \end{matrix}$$

Each number represents the "ripeness" of a kiwi with 0 meaning that it has just been planted and 6-8 meaning that it is at optimal ripeness.

If the ripeness exceeds 8, then the fruit is considered rotten and inedible.

As each day passes, you will go through the following procedure:

1. Check every row of your kiwi farm to see if the row can be harvested. You can consider this by checking if at least 50% of a row's kiwis are at least ripe (at least 6).

2. If it is, the number of ripe and rotten kiwis will be tallied and the entire row will be cleared and replanted (an entire row of 0's). Therefore the kiwis that aren't fully grown will be discarded. Although you are a wasteful farmer, you probably don't want your first homework to be any harder.

3. At the end of the day any unharvested rows will age by one day (incremented by 1). This means that the rows the got cleared will stay as 0's.

You will simulate your kiwi patch for seven days using the provided procedure above. On the evening of the seventh day, all rows will once again be checked for harvest and tallied. Then present your yield. Your yield (or output) will be the resulting matrix, then the total number of harvested kiwis and rotten kiwis tallied throughout the entire week.

Hints
- The kiwi matrix will always be a square and the size will always be even (so calculating 50% will be easier)
- You are required to use pointers to solve the problem

Input	Output
4 4 6 8 9 0 0 1 0 7 7 5 6 2 1 7 7	**./kiwi input=input1.txt** **output=output1.txt** 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 Harvested kiwis: 23 Rotten kiwis: 1
6 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	**./kiwi input=input2.txt** **output=output2.txt** 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 Harvested kiwis: 36 Rotten kiwis: 36
2 12 11 1 0	**./kiwi input=input3.txt** **output=output3.txt** 0 0 1 1 Harvested kiwis: 3 Rotten kiwis: 2

Turning in

The homework needs to be handed over to our Linux server. Follow the link here:
http://www2.cs.uh.edu/~rizk/homework.html
Make sure to create a folder under your root directory and **name it hw1** (case sensitive). Only copy your code to this folder. No testcase or other files are necessarily needed. If you use ArgumentManager.h, don't forget to hand over it too.

Policy

Homework is **individual**. Your homework will be automatically screened for code plagiarism against code from the other students external sources.
If you copy/download source code from the Internet or a book, it is better for you to acknowledge it in your comments, instead of the TAs detecting it. Code that is detected to be copied from another student (for instance, renaming variables, changing for and while loops, changing indentation, etc) will result in "Fail" in the course and will be reported to UH upper administration.