Timed Exam Question: Exam 2 - Question 7

[Work with your (new) Pair Programming Partner. Do your best to keep other pairs from overhearing your conversations and seeing your code. If your Partner is not in the recitation, work alone. (or you can pair up with another single person with your TA's permission). You may access your notes and the Internet. This is an open notes and open Internet coding problem. But hurry, as you only have 60 minutes to submit your answer!]

The Question:

Your pointy-haired manager walked into your office at 4 pm on his way outside and tasked you with finding the highest sales of each item your company sells. Unfortunately, it's Friday and you have a date that you have to pick up at 6pm, and you NEED the time between 5 and 6 to get ready! Time to whip out a fast answer using Python!

The data is stored in a CSV file (an example file is provided on T-Square). The first column lists the dates (either days or dates, they can be treated as a string). Every other column is a unique product. However, not every product was offered on each day; on days that the product was not sold, the day's value will be None. Additionally, it is possible your company had more returns of a product than sales, resulting in a negative number. Below is a possible data set, given in table form. The data will be either the string "None" or a string that represents a (positive or negative) integer.

Date	ShamWow	Cami Lace	Instant Switch	Flowbee
Monday	2330	None	574	630
Tuesday	None	None	885	None
Wednesday	543	None	789	None
Thursday	8893	None	258	3775

You should write two functions: readData and computeMax (each worth 10 points)

readData will accept a single parameter, a filename represented as a string. It should return a list of lists. This list will represent one row of data. (NOTE: DO NOT include the header row!] Each inner (nested) list should be of the form ['Monday', 2330, None, 574, 630], where the date remains a string, but the numbers and "None" are converted to integers and None of NoneType. The output of the readData function will be used as the input to the computeMax function.

The computeMax function will accept a list that contains lists of row data from the CSV file. You should return a single list which contains, in order by columns, the maximum values from each column. In the event that a column contains only None values, you are to add None to the list. For example, with the input data shown above, your output would be: [8893, None, 885, 3775] Note that if a column has only negative values and None's, the smallest (closest to zero) negative value should be returned.

Test your code:

After writing the two functions named above, be sure to test them by using the following code at the end of your file.:

```
data = readData("asotv.csv")
result = computeMaxDay(data)

print(result)
```

Getting Credit:

You and your partner need to place both of your names on the top of the file, and a collaboration statement like you would write for a pair programming homework, citing any code you used from the Internet. BOTH partners need to turn the code in on t-square. You will be graded on the code YOU turn in.