Find a way to generalize your sorter given *any* CSV file. Include a discussion of the algorithm and any additional metadata you might require.
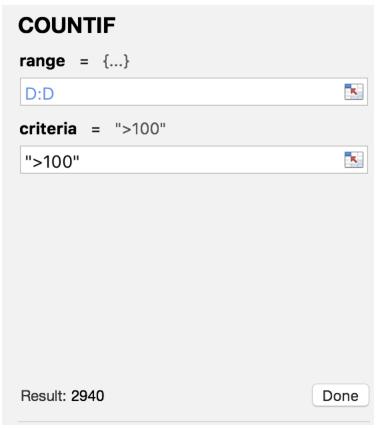
In order to generalize our code to work on any CSV file, we would have to first test each column to check if we are sorting numbers or character arrays. To do this, we would scanf the input, take the length of that input as a string, use a for loop to go through each character of the string, and check to see if it is a digit using the isdigit(input[i]) condition. If it traverses the entire string and does not find any character that is not a digit, we know the column is a number and that it can be sorted numerically, however if it does find a character that is not a digit, we can deduce that it must be sorted lexicographically.

For the most part however, most of our code would work for any CSV file, as we dynamically allocate memory accordingly and have functions that trim white space and sort the elements correctly. As long as we ensure that the inputs are put in correctly and we know the column name that we want to sort by, the process of running this program would be the same.
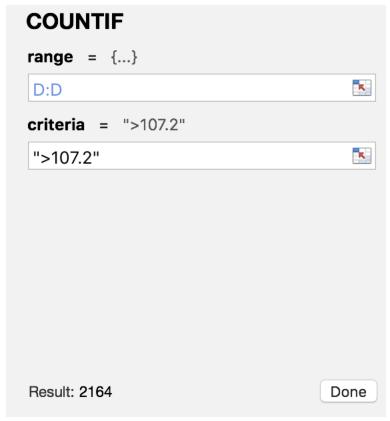
Find something interesting about the data set. Analyze/mine the data for interesting statistics. Include a discussion of the algorithm and your findings.

143	77
35	80
56	81
	84
14	95
1	87
43	43
13	76
14	100
43	90
	107.201074

Average duration = 107.2 minutes

COUNTIF

range = {...}

D:D

criteria = ">100"

">100"

Result: **2940**   Done

The number of movies longer than 100 minutes = 2940.
(2940/5043) * 100 = 58.3% of the movies are over 100 minutes long.

COUNTIF

range = {...}

    D:D

criteria = ">107.2"

    ">107.2"

Result: **2164**   [Done]

Number of movies that are longer than average = 2164
(2164/5043)*100 = 43% of the movies are longer than average

The average gross is $48,285,593.62 for this data set of movies. This is interesting to compare to the grosses of movies in 2018, which I analyzed from https://www.boxofficemojo.com/yearly/chart/?view=releasedate&view2=domestic&yr=2018&sort=gross&order=DESC&p=.htm The top grossing movie in 2018 thus far is Black Panther, with a total grossing of $700,059,566. This is about 14.5 times the average gross of the data set we were provided with.

The average number of Facebook likes is 7526, but it is also interesting to note that 2269 of those movies (about 45%) had 0 likes.

It is also interesting to notice that the average number of total cast Facebook likes is 4834.