Background: A 'Mars Mile' is sponsorship of one mile on humanities first crewed trip to Mars! Donors are paying for the entire cost, that's right the ENTIRE cost of one mile of the trip. They own part of the mission. What we want to do is every month run your program and get a list of the new Mars Mile sponsors and send them out a certificate.

Project: Create a program to figure out what Mars Mile people get.

Input would be two things

1) The output of the last time the program was run
2) a csv file with three columns of new donations (Donor Name, Donation Date, Amount donated).

Output would be two things, ideally in a CSV file or two separate csv files (unless you have a better idea).

1) A list (3 columns) of Mars Mile number (1, 2, 3, etc.), the name of the person that sponsored them, the date the Mile was sponsored (the date of the donation that sponsored the mile).
2) A list (3 columns) of donors, the total amount they have donated, and a list of the Mars Miles they have sponsored.

Thought process: We are constantly receiving small donations from people and occasionally receiving larger donations. We want to figure out the point that a person passes $100 in donations (or $200 or $300, etc.). At that point we want to award this person whatever Mars Mile is next in line. This chart is an example of how it would work.

Name	Date of donation	Amount of donation	Did they get a mars mile	What number is the Mars Mile?
Mina	Jan 1, 2018	$25	No	
Jim	Jan 5, 2019	$125	Yes	1
Chris	Jan 7, 2018	$50	No	
Mina	Jan 8, 2018	$25	No (total only $50)	
Steve	Jan 10, 2018	$200	Yes	2, 3
Sandy	Jan 12, 2018	$5	No	
Mina	Jan 15, 2018	$25	No (total only $75)	
Amanda	Jan 17, 2018	$100	Yes	4
Elon	Jan 20, 2018	$1,000	Yes	5-14
Mina	Jan 22, 2018	$25	Yes (total is $100)	15
Chris	Jan 23, 2018	$60	Yes (total is $110)	16

What I did to manually figure this out was

1) Sort by name in the donation file,
2) Separate everyone that had less than $100 in total donations from those that had greater than $100 in donations.
3) Add a column for total donations,
4) Add another column that contained the date when an individual's donation total crossed a $100 mark, eg. From $389.00 to $409.00 would trigger their 4th Mars Mile.
5) Then sort on the column with the Mars Mile dates, that gave me a list of about 61 people (61 at the time I did this, we are over 130 now).

This is just what I did. Feel free to use any logic you want. This also needs to be written in a program that we can freely access (cost ~$0). And I need to have access to run this as well as other people.

Once complete I would like you to write up a document describing how your program works so that other people can modify it later (this is a new requirement I am adding to everyone's work, because things happen and volunteers have to deal with life some times and disappear for months [parent's death, etc.]. I want anyone to be able to be replaced if they have to take some time off.

I see us running this program at the end of every month and then updating the website with the new numbers and sending out certificates.