

Student	Laurice Keogh	70
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Part 1

	Available	Marks
Q1 The file <i>roller_coasters.csv</i> contains data on a number of roller coasters from all around the world. This shows the name, type, material, manufacturer, location and current status for each roller coaster and may also show data on the height, length, speed, and number of inversions achieved by each roller coaster. Load this data into a data frame <i>coasterData</i> , ensuring that the headers are imported and that the type, material, manufacturer, and current status are imported as factors. Your script should assume that the data file is stored in the same folder as the script file. Display the resulting data frame.	5	5
Q2: Create a new data frame <i>highestData</i> that shows the name, height, park and status of the highest operating roller coaster of each type of roller coaster. Display this data frame.	10	7
Q3: Include a function <i>displayComparison()</i> that will take the <i>seating_type</i> as a parameter and will produce a bar chart showing the speed of the top ten fastest operating rollercoasters of that seating type. Display this using inverted roller coasters.	15	10
Q4: Include a function <i>correlateLengthSpeed()</i> that generates a data frame <i>lengthSpeed</i> that shows the mean height, length, and coefficient of correlation of length and speed for Sit Down roller coasters. These calculations should be based on records in <i>coasterData</i> that contain no NA fields.	15	11
Q5: Include a function <i>compareWoodenSteel()</i> that performs a t-test to see if there is a significant difference at the $p=0.05$ level between the speeds of wooden rollercoasters and steel rollercoasters. Include your hypotheses and your conclusions in your comments. These calculations should be based on records in <i>coasterData</i> that contain no NA fields.	10	8
Commenting, white space and code presentation	5	5
TOTAL		46
Comment Q1: The function you've written is good, but in a simple open-file-and-import-data script this would actually be slower than simply performing the actions in the main script. Q2: Code is good, although you haven't actually displayed the data frame. Q3: The generated graphic is good, but it would be easier to see all of the coaster names if you swapped the x and y axes. Q4: Good approach. Q5: Good. The automation of providing the result works well. Good use of comments and white space		

Part 2

	Available	Marks
Explain how your code works for each section (including flow charts) and how you have extracted the required data from the data frame where you have stored the imported data. TASK 1	30	17
A reflection on what you found challenging, what you learned, and what you would do differently next time.	10	7
TOTAL		24
Comments Your flow charts are quite untidy. Try using one of the flow chart tools available online to make them look more professional. In documenting something like this it's better to show small sections of the code as you explain them rather than trying to explain everything and then show the whole code section. 1 Good reflection. That's pretty much what I think of ChatGPT too. 😊		