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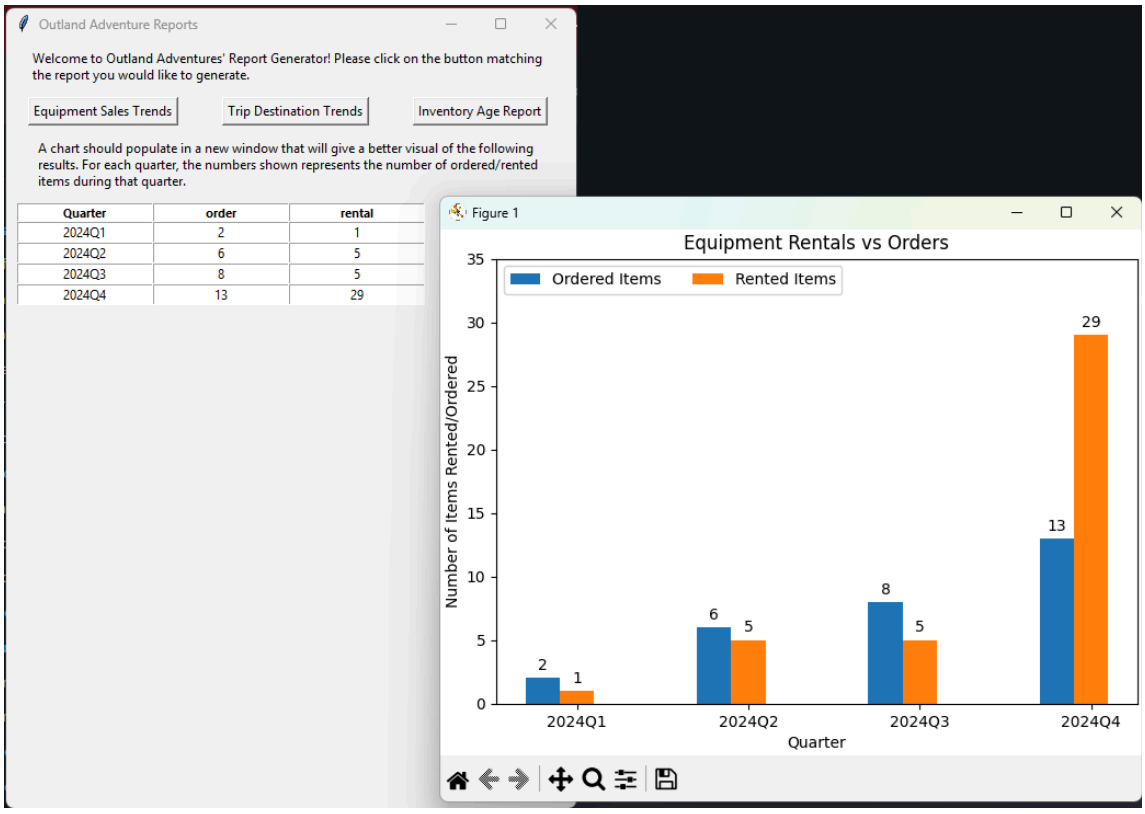
Outdoor Adventures Query Reports

Query Reports

Equipment Sales:

Outland Adventures not only offers planned trips and guides for outdoor adventures, they also provide equipment that can be bought or rented to their customers. As they are expanding as a business, it raised the question of, do enough customers buy enough equipment to keep equipment sales? Perhaps they question which need is higher, to rent or to buy. A new adventurer may be reluctant to plunge headfirst into buying when they are just trying out but a seasoned camper/hiker may need to replace and purchase their equipment regularly.

Blue team is on the case; they first coded through the database to extract the number of orders per quarter in the 2024 year; same for the rental orders. Displaying them in a neatly laid out chart. Despite it's legibility; Blue Team took it one step further and displayed the contents of the table in a clear bar graph. The graph displaying how though ordered items dominated the sale market for the first three quarters of 2024, the rented items doubled over the ordered items by the fourth quarter.



Location Bookings:

The second question asked in the case study was:

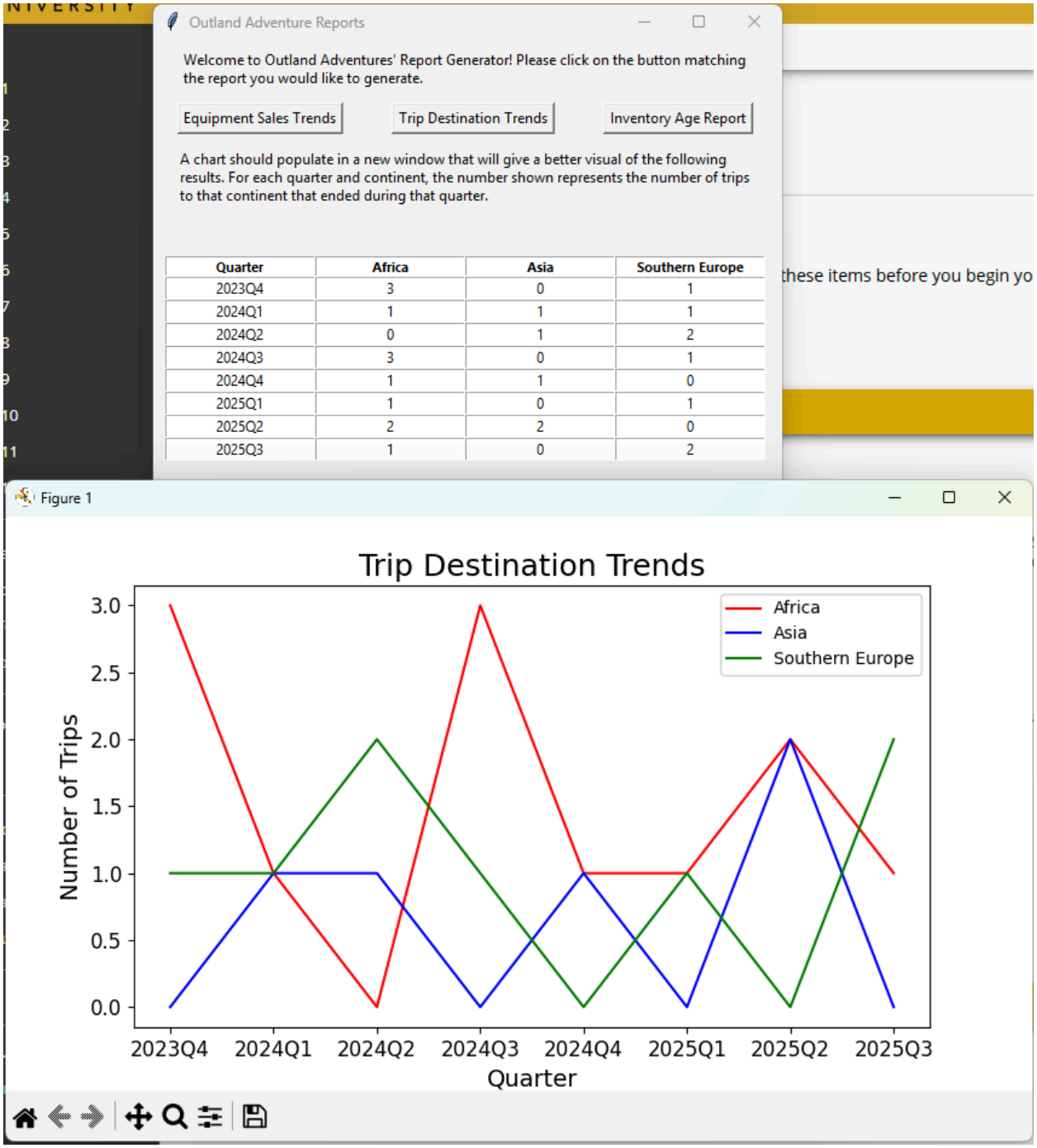
> So far, [Outland Adventures has] conducted treks in Africa, Asia, and Southern Europe. Is there any one of those locations that has a downward trend in bookings?

We thought this might be answered well with a report using a matplotlib line graph. To do this, we first used ChatGPT to generate additional trips, bringing the original six up to 25. Then we figured out the queries in the MySQL Command Line Client using a case to group the trips by quarter, and of course also grouping by continent. Codecademy's free Learn SQL course was helpful with gaining the understanding to craft the needed queries.

Once we had the queries figured out in MySQL, we started building the Python script that would execute the queries and then display the resulting data. We decided to create a nice Tkinter app with buttons to generate each report. Next we focused on getting the matplotlib data plot to work in such a way that all three continents' lines would be plotted at once with a legend.

Finally, we decided to also display the underlying data in a textual format. We had some trouble getting the padding to align correctly with pure text, so we found a tutorial on creating a table out of Tkinter Entry widgets and adapted that.

The resulting report shows trip location trends by quarter. Because the underlying trip data was randomly generated, there is no real trend to speak of, although Africa looks like a more popular trip destination overall. With real data, if any destination was trending low over time, this report would show it.

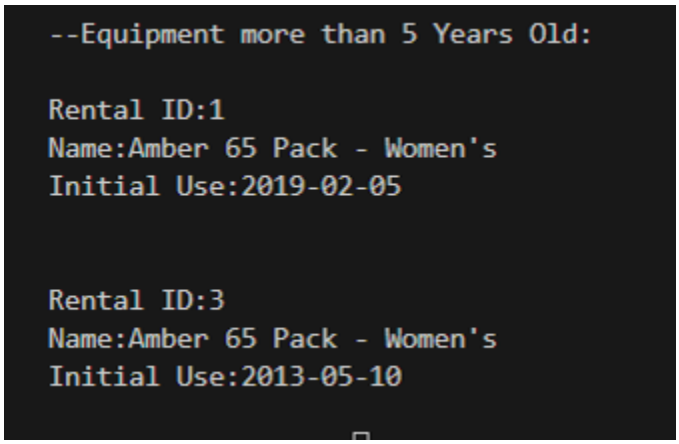


Inventory Age:

The Outland Adventures Database holds a number of equipment to be purchased or to be rented out for other hikers and campers. With the nature of how the equipment is being used, the founders are concerned about the age of some of the inventory. Though condition also plays a factor;

even 'new' and unused equipment can deteriorate due to age; for instance tents can flake off their weather proof coating. Their age can affect not only the quality of the product but can become a liability.

After joining two of the tables that contained the name, the rental ID and the initial use date, the Blue Team filtered through the data so only equipment that is older than five years is displayed:



Based on the filtered data, two of the items from the inventory need to be evaluated; though they are the same item they are separate units initially used in different years. The Blue Team displayed it so it can easily read, the person handling inventory can see when it was used and its rental ID.

References:

Codecademy. (n.d.) *Learn SQL*. https://www.codecademy.com/learn/learn-sql

GeeksforGeeks. (2022, February 24). *Create Table Using Tkinter*. https://www.geeksforgeeks.org/create-table-using-tkinter/

OpenAI. (2025). *ChatGPT* (GPT-4) [Large language model]. Retrieved from https://chat.openai.com/