Graphing Dino World Assignment

Jupyter Notebook Demonstration: Introduction to Statistical Graphics

Submission: Graphing Dino Fun World Assignment

Description

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Assignment Description

Impressed by your previous work, the administrators of Dino Fun World have asked you to create some charts that they can use in their next presentation to upper management. The data used for this assignment will be the same as the data used for the previous assignment.

The administrators would like you to create four graphs:

Graph 1: A pie chart depicting visits to thrill ride attractions.

Graph 2: A bar chart depicting total visits to food stalls.

Graph 3: A line chart depicting attendance at the newest ride, Atmosfear over the course of the day.

Graph 4: A box-and-whisker plot depicting total visits to the park's Kiddie Rides.

Directions

The database provided by the park administration is formatted to be readable by any SQL database library. The course staff recommends the **sqlite3** library. The database contains three tables, named `checkin`, `attractions`, and `sequences`. The database file is named '**dinofunworld.db**' and is available in the '**/course/data/CSE-578/dinofunworld.db**' path.

Note: Please note that the database file is accessible through the learner submission workspace,

Feedback

The information contained in each of these tables is listed below:

`checkin`: - The check-in data for all visitors for the day in the park. The data includes two types of check-ins: inferred and actual checkins.

- Fields: visitorID, timestamp, attraction, duration, type

`attraction`: - The attractions in the park by their corresponding AttractionID, Name, Region, Category, and type. Regions are from the VAST Challenge map such as Coaster Alley, Tundra Land, etc. Categories include Thrill rides, Kiddie Rides, etc. Type is broken into Outdoor Coaster, Other Ride, Carousel, etc.

- Fields: AttractionID, Name, Region, Category, type

`sequences`: - The check-in sequences of visitors. These sequences list the position of each visitor to the park every five minutes. If the visitor has not entered the part yet, the sequence has a value of 0 for that time interval. If the visitor is in the park, the sequence lists the attraction they have most recently checked in to until they check in to a new one or leave the park.

- Fields: visitorID, sequence

Using the provided data, create the four visualizations that the administration requested: the pie chart, bar chart, line chart, and box-and-whisker plot.

Submission Directions for Assignment Deliverables

This assignment will be auto-graded. You must complete and submit your work through Ed Lesson's

Feedback

1. In order for your answers to be correctly registered in the system, you must place the code for your answers in the cell indicated for each question.

- You should submit the assignment with the output of the code in the cell's display area. The display area should contain only your answer to the question with no extraneous information, or else the answer may not be picked up correctly.
- Each cell that is going to be graded has a set of comment lines (ex: ### TEST FUNCTION: test_question1) at the beginning of the cell. **This line is extremely important and must not be modified or removed.**

2. After completing the notebook, run each code cell individually or click "**Run All**" at the top to print the outputs.

3. When you are ready to submit your completed work, click on "**Mark**" at the bottom right of the screen.

4. You will know you have successfully completed the assignment when feedback appears for each test case with a score.

5. If needed: to resubmit the assignment in Ed Lesson

1. Edit your work in the notebook
2. Run the code cells again
3. Click "**Mark**" at the bottom of the screen

Your submission will be reviewed by the course team and then, after the due date has passed, your score will be populated from Ed Lesson into your Canvas grade.

Feedback

There are four parts in the grading, and each part has one test case where the total number of points for all parts is 50. If the submission is correct, you will see "The data used for the chart is correct. The plot is a valid chart." with scores for each part. If your output data is correct but the graph is not, you will receive a partial score. **The auto-grader first validates your output data, and if it is correct, it proceeds to evaluate the correctness of the graph.** If the submission fails, the grader will return the corresponding error messages.

Common Errors

Workspace

- PNG Plot not found: Add `%matplotlib inline` in your cell.
- The plot generated is not a valid chart: Ensure your chart has all the specified parameters in the right format as outlined in each question.

Note: To achieve better scores, consider following the Jupyter Notebook Demonstration titled "Introduction to Statistical Graphics Reading or Video"

Please execute each cell in the Notebook before submitting.

Feedback

1 2 3 4 5

Passed

TESTCASES 4 / 4 passed, 50 points

Question 1	✓	15 / 15 points
Question 2	✓	15 / 15 points
Question 3	✓	10 / 10 points
Question 4	✓	10 / 10 points

The data used for the pie chart is correct. The plot is a valid pie chart.