CS 327E Project 3, due Thursday, 09/21.

This assignment uses the Shopify data and builds upon the postgres-tx.ipynb notebook which we worked on in class.

Using lucidchart, create an ERD for the shopify schema in Postgres. Make sure to include the keys, field names and field types for each relation and draw the proper relationships between the relations. Name the diagram `shopify-erd.pdf` and download it to your computer.

Make a copy of the `postgres-tx.ipynb` notebook and rename it to `project3.ipynb`. Implement the following logic in your `project3.ipynb` notebook:

- Set the appropriate variables for your environment and run through all the sections that from the `postgres-tx.ipynb` notebook.
- Add a markdown comment on the last cell with the heading “begin project 3 work”.
- Create an insert, update, and delete transaction using any of the Shopify tables:
    - Each transaction should contain at least 2 statements.
    - Each transaction should be stored in its own .sql file (e.g. insert_tx.sql, etc.).
    - Each transaction should be run from the notebook by calling the .sql file.
    - Add a Markdown comment above the transaction that briefly explains its function.
- Write the SQL for each of the queries below:
    1. Find all apps whose category title = 'Productivity' and whose rating >= 4.0 and whose review count >= 50. Return the app id, developer, rating and review count. Sort the results by rating in descending order firstly, and secondly, by review_count in descending order.
    2. Find the apps which are missing a pricing plan or the pricing plans which are missing an app. Return a count of such records.
    3. Find all apps whose key benefits include the word 'security' in either the title or the description of their key benefits. Return the app id, developer, title, and rating. Sort the results by rating in descending order.

CS 327E Project 3 Rubric
**Due Date: 09/21/23**

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| Run through all the commands in the `project3.ipynb` notebook (which were copied from `postgres-tx.ipynb)`.<br>**-3** for each command not run<br>**-3** for each command which produced an error | 10 |
| Create an ERD of the tables and relationships in the shopify schema. Include column names, data types, and keys. Draw proper relationships between the tables.<br>**-10** for each missing entity type<br>**-7** for each incomplete entity type (e.g. missing columns, data types, keys)<br>**-5** for each missing or incorrect relationship | 30 |
| Write 3 SQL transactions that insert, update and delete records from the Shopify tables. Each transaction should contain at least two statements.<br>**-10** for each missing transaction type or missing .sql file<br>**-7** for each incomplete transaction type<br>**-5** for each missing output<br>**-3** for each missing Markdown comment | 30 |
| Write the SQL for the three queries mentioned.<br>**-10** for each missing query.<br>**-7** for each incorrect or incomplete query.<br>**-5** for each missing output. | 30 |
| `project3.ipynb`, `insert_tx.sql`, `update_tx.sql`, and `delete_tx.sql` pushed to your group's private repo on GitHub. Your project **will not** be graded without this submission. Please also remember to also include `shopify-erd.pdf` in your repo. | **Required** |
| `submission.json` submitted into Canvas. Your project **will not** be graded without this submission. The file should have the following schema:<br><br>`{`<br>`  "commit-id": "your most recent commit ID from GitHub",`<br>`  "project-id": "your project ID from GCP"`<br>`}`<br><br>Example:<br><br>`{`<br>`  "commit-id": "dab96492ac7d906368ac9c7a17cb0dbd670923d9",`<br>`  "project-id": "some-project-id"`<br>`}` | **Required** |
| **Total Credit:** | **100** |