

CS 327E Project 3, due Thursday, 03/04.

This assignment builds upon the `spanner.ipynb` notebook we worked on in class.

Make a copy of the `spanner.ipynb` notebook and rename it to `project3.ipynb`.

Implement the following logic in the `project3.ipynb` notebook:

- Change the appropriate variables for your environment and run through all the commands in the notebook in the proper sequence. Note: you will need to repeat this step each time you restart your Jupyter instance since the Spanner Emulator does not persist your changes.
- Add a markdown comment on the last cell with the heading “begin project 3 work”.
- Populate the `reviews` table in the shopify database from `reviews.csv`.
- Run a count on the `reviews` table.
- Describe the `reviews` table using the `show create table` command.
- Add two fake reviews to the `reviews` table for `app_id = '6286d4cd-3fcb-4ee3-bb3c-de051c28b83c'` and update the corresponding app record in the `apps` table with an average rating and review count based on your assigned values. Wrap this logic into a single transaction.
- Find and add any missing foreign key constraints using the `ALTER TABLE` command.
- Describe each table which you modified in the previous step.
- Optimize this query:

```
select * from apps a join reviews r on a.id = r.app_id
where a.rating >= 5.0 and r.author = 'Funky Moose Records';
```

Hint: you do not need to prove that your chosen index speeds up this query since we are not using a real Spanner instance for this assignment.

CS 327E Project 3 Rubric

Due Date: 03/04/21

<p>Create a copy of the <code>spanner.ipynb</code> notebook and rename it as <code>project3.ipynb</code></p> <ul style="list-style-type: none"> -5 incorrect file name -5 copied incorrect notebook 	5
<p>Run through all the commands in the <code>project3.ipynb</code> notebook (which were copied from <code>spanner.ipynb</code>).</p> <ul style="list-style-type: none"> -3 for each command not run -3 for each command which produced an error 	12
<p>Populate the <code>reviews</code> table in the shopify database and run a count on this table.</p> <ul style="list-style-type: none"> -10 <code>reviews</code> table is empty or incorrect CSV file was used -3 count is incorrect 	10
<p>Describe the <code>reviews</code> table using the <code>show create table</code> command.</p> <ul style="list-style-type: none"> -3 output is incorrect 	3
<p>Transaction consisting of two review records and one updated app record.</p> <ul style="list-style-type: none"> -10 code block not wrapped in transaction -5 for each incorrect mutation 	30
<p>Find and add missing foreign key constraints.</p> <ul style="list-style-type: none"> -5 for each missing foreign key constraint -5 for each incorrect foreign key constraint -3 missing describe table 	20
<p>Optimize the query given. Show your solution as code.</p> <ul style="list-style-type: none"> -10 incorrect optimization provided. -10 incomplete optimization provided. 	20
<p><code>project3.ipynb</code> pushed to your group's private repo on GitHub. Your project will not be graded without this submission.</p>	Required
<p><code>submission.json</code> submitted into Canvas. Your project will not be graded without this submission. The file should have the following schema:</p> <pre>{ "commit-id": "your most recent commit ID from GitHub", "project-id": "your project ID from GCP" }</pre> <p>Example:</p> <pre>{ "commit-id": "dab96492ac7d906368ac9c7a17cb0dbd670923d9", "project-id": "some-project-id" }</pre>	Required

Total Credit:	100
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