Good morning, thank you for (TA’s name) joining our demo. We’re excited to present what we come up for this project.

In this project, we used **Python**as our programming language to build a web application. MySQL is the database we used in this project. Django is our main backend framework. Our frontend framework uses bootstrap.

To demo the web application, we type the command in cmd: py manage.py runserver and it gives us this link. Copy and paste it to the browser. This is how the interface looks like. The basic 5 statistics are displayed here including count of stores offering childcare, count of products, count of distinct advertising campaigns, count of stores, count of stores offering food. The following are 9 reports and 2 maintenances including population and holiday maintenance as required by the project spec. I’ll show you the maintenance functions first, and then the 9 reports.

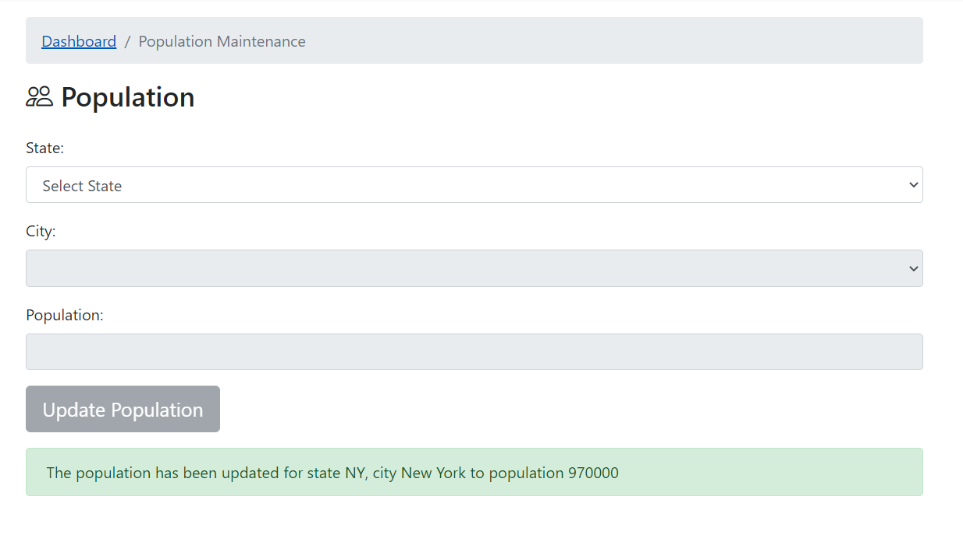
There are two maintenances: Population and holiday maintenance.

1. Click on population link, if there is no selection, update population button is dabbled. User can select state, city and it shows the population. If input another number, and click the update population button, it shows the success message.

Note: population length should be between 0- 10.

2. If the same population is entered, button is disabled.

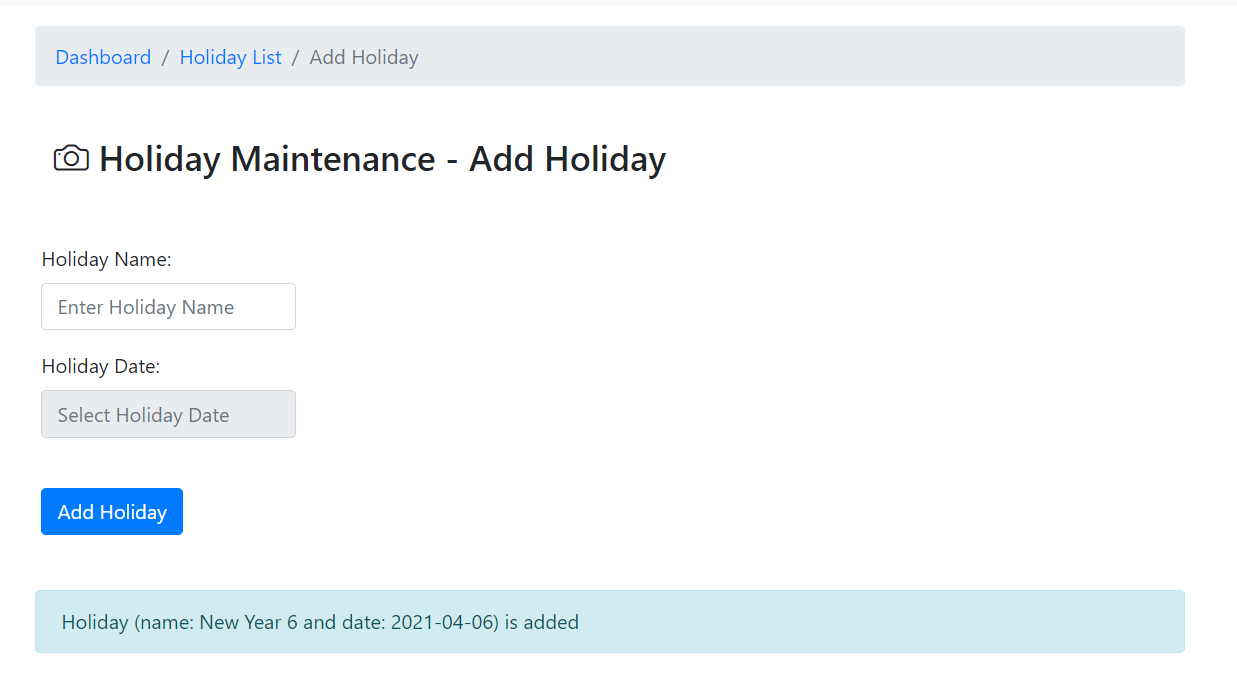
3. If we decide not to update population, choose other state, button is disabled again.



Click here and we go back to the dashboard.

Next, click on the holiday maintenance link: 1. it shows the holiday list. Note: A date can have multiple holiday names.

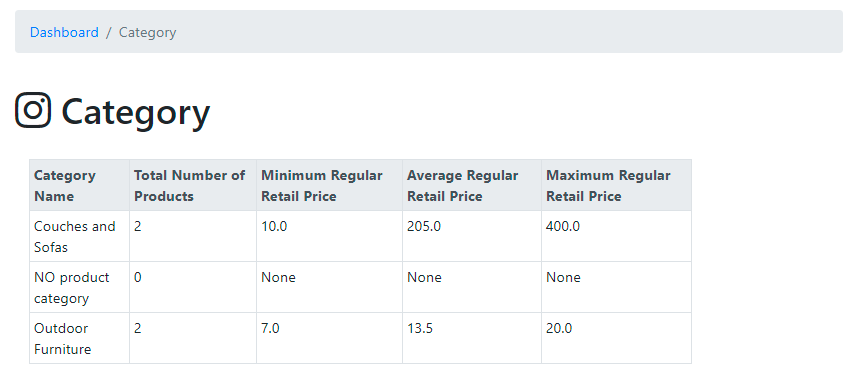
2. If the user wants to add holiday, click add holiday button. If no selection, add holiday button is disabled. User needs to input Holiday Name and Select Holiday Date from DateTimePicker. And the holiday is added. Note: The Date Text box is read only and only support the time picker to reduce the error handling cost. And when we go back to holiday list you can see the holiday is added.



3. If a holiday is already existed with the same name and same day, it shows a message to remind you this. For example:

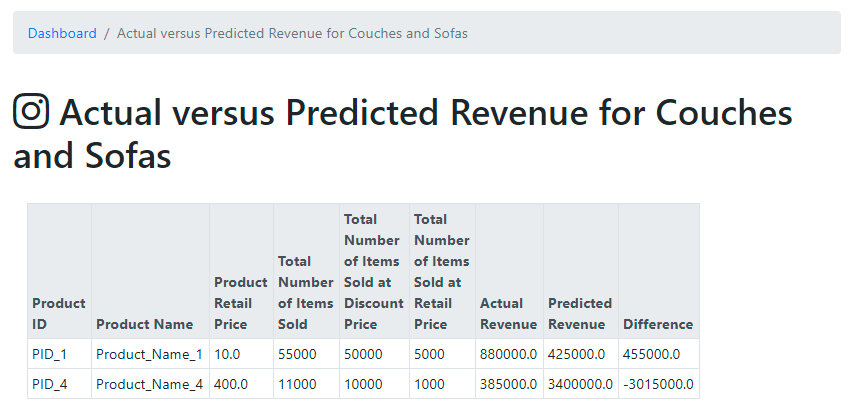
Now let’s go to the reports. Report 1 is the category report. It’s about a summary of the products in each category.

1. Once the user clicks this link, it returns this table. Columns include category name, total number of products, Min & Average & Max retail price of products. 2. Each category includes those without products are listed here. 3. Report is sorted by category name in ascending order. 4. From the results, we can see there are XXX categories in the database. Click the “Dashboard” here, you can return to main menu.



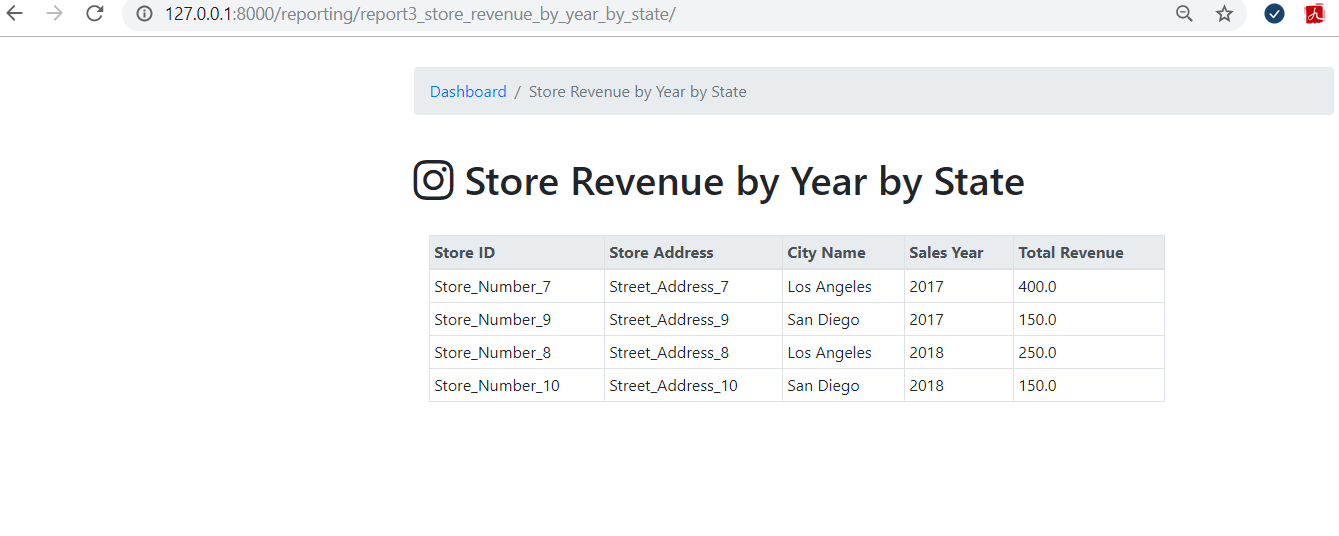
Report 2 is the report about actual versus predicted revenue for couches and sofas. The user wants to predict whether offering items at a discount actually helps to increase revenue by encouraging a higher volume sales. This report compares how much revenue was actually generated from a product’s sales versus if the product were never discounted. Once the user clicks this link, it returns this table.

1. This report is only for the products in the category of couches and sofas. 2. The columns in this table include product ID, name, retail price, total number of items sold, total number of items sold at discount price, total number of items sold at retail price, actual revenue, predicted revenue, and the difference. 3. Predicted revenue is based on 75% volume selling at a retail price and the difference column means the difference between the actual revenue and the predicted revenue. 4. As required by the spec, only differences greater than $5000 (either positive or negative) are displayed here and sorted in descending order. Difference is calculated between the actual revenue and the predicted revenue. 5. From the results, we can see offering discount for these products can result in huge differences. Offering discount for XXX can increase revenue, however, offering discount for XXX cannot. This is the report 2. Again, click “Dashboard” and return the main menu.



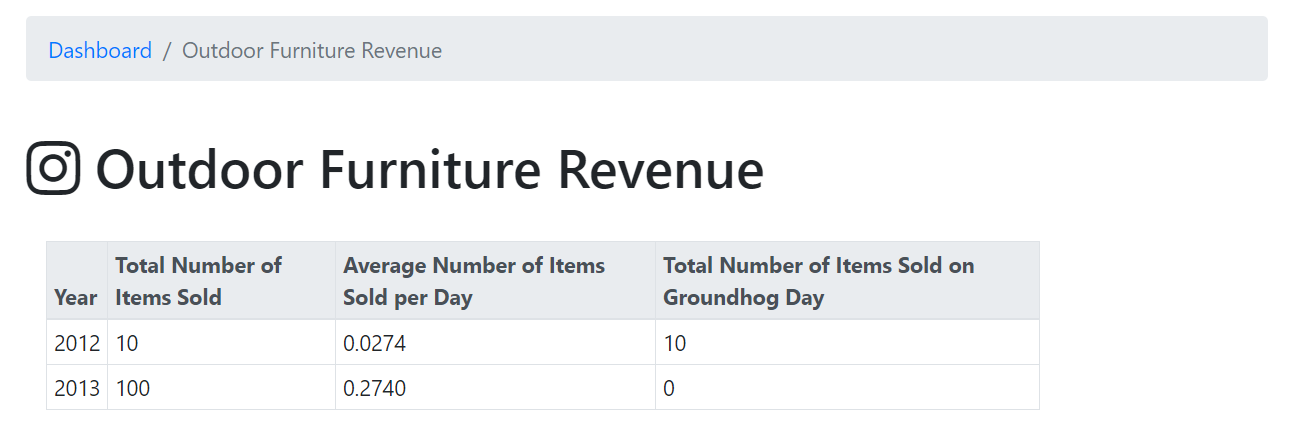
Report 3 is the store revenue by year by states report. It shows the revenue collected by stores per state grouped by year.

1. When clicking this link, it asks the user to select a state and then click Run Report button. Note, here if you don’t select any state, run report button is disabled. Once we select a state and click the button, it goes to this table. 2. Columns include store ID, Store Address, city name, sales year and total revenue. 3. The report is sorted first by year in ascending order and then by revenue in descending order. 4. From the results we can tell for XX state, there are XX stores with sales from XX year to XX year. Store XX has the highest revenue in year XXX.



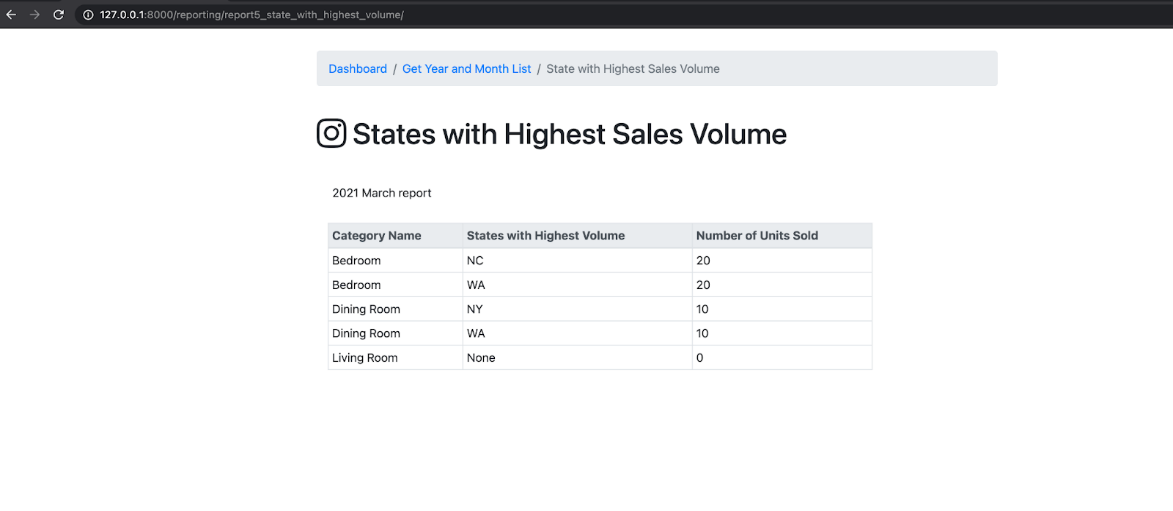
Report 4 is the report about outdoor furniture revenue on Groundhog day. The goal of this report is to prove if the outdoor furniture sales spikes on Groundhog day.

1. This report is only for products in the category of outdoor furniture. 2. It returns the table with columns of year, total number of items sold, average number of items sold per day, total number of items sold on Groundhog day (Feb.2). 3. The report is sorted by year in ascending order. 4. From the results, we can tell in most years, total number of items sold on groundhog day is significantly higher than the average number of items sold per day which proves the spike sale on Groundhog day.



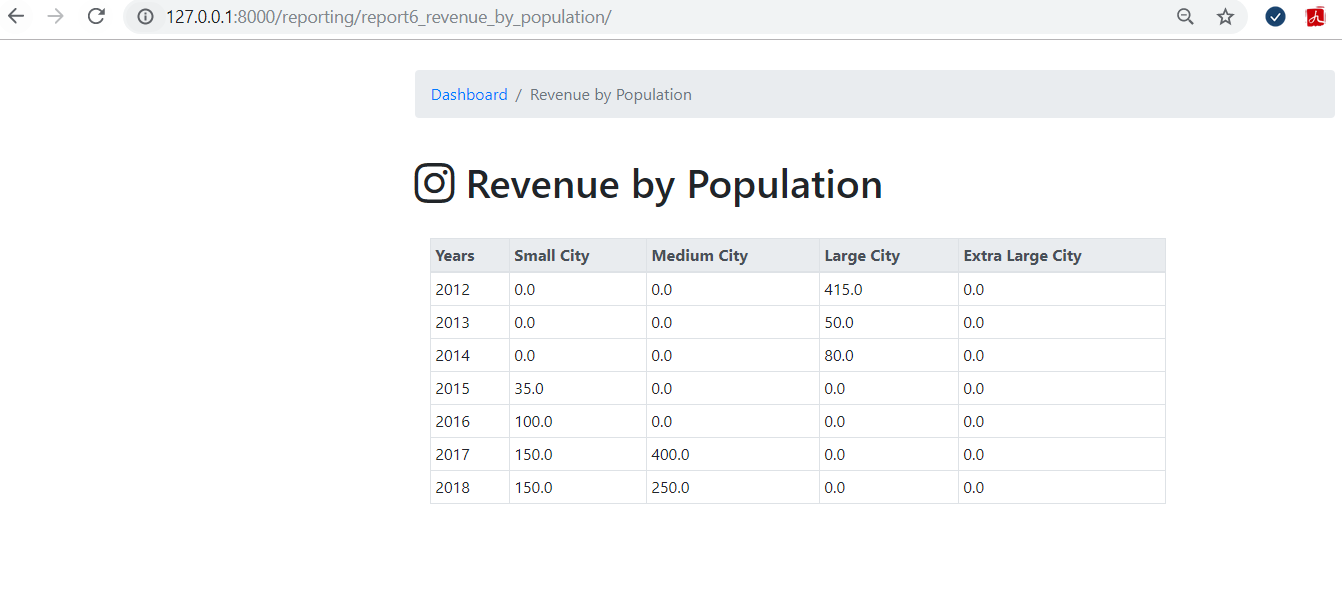
Report 5 is the State with Highest Volume Report. In this report, users want to know all stores in the states that sell the greatest number of units for each category.

1. Clicking on the link, users want to view this monthly, so we need to select year and month first. If no selection, Run Report button is disabled. Then, it returns this table with the column of the category name, the states that sold the highest number of units in that category (include items sold by all stores in the state), and the number of units that were sold by stores in that state.  2. The table is sorted by category name ascending. 3. Note: Each category will only be listed once unless there are more than one state with the highest sales units. 4. From the results, we can tell in XXX, XXXX, XX state has the highest sales volume for XXXX category.



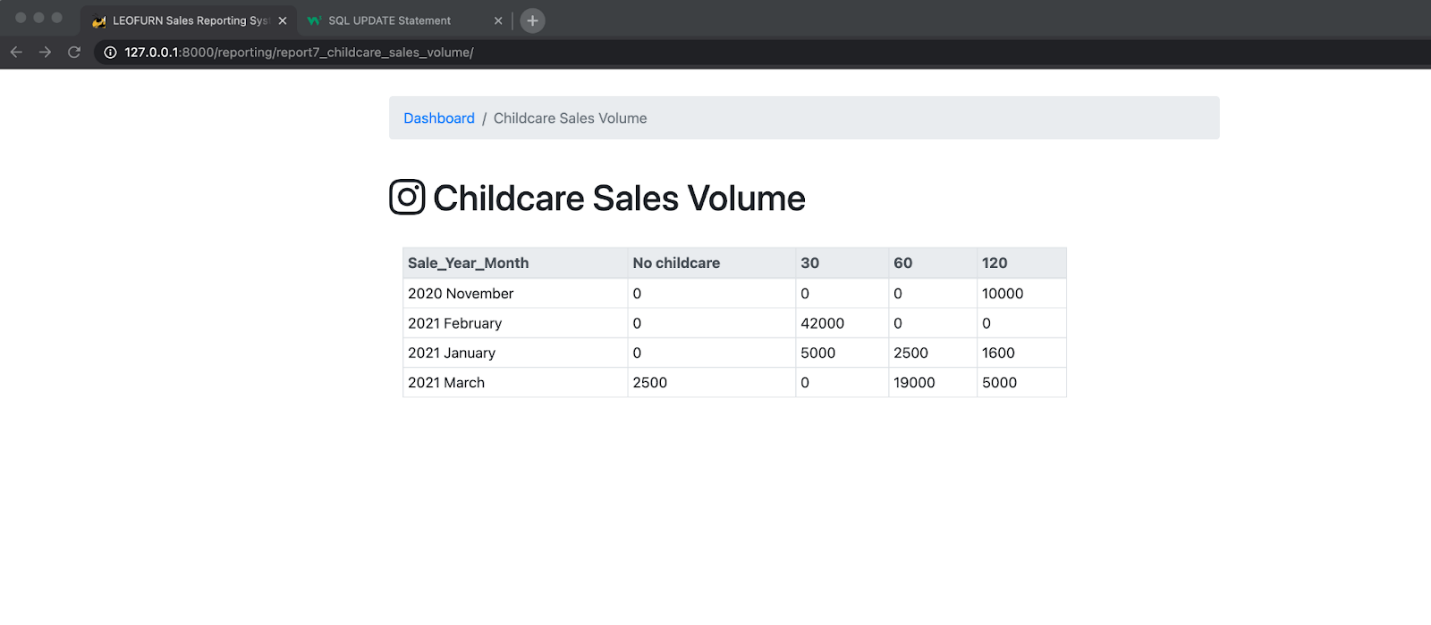
Report 6 is the revenue by population report. To help forecast expansions into other cities, users want to see what the total revenue is for specific population categories, and to see if there is a trend for growth, the revenue should be broken down on an annual basis. The user clicks report 6 link and goes to this table.

1. It includes columns of years, categories for city sizes including small city, medium city, large city and extra large city. 2. Years are in ascending order. 3. From the results, we can see in most of the years, XXX city size has higher revenue, comparing with other city sizes. So users should consider expansions into XXX cities. Also with the increase of year, there is a trend for growth (or maybe not, depending on results). 4. Note: when population is updated in the Population Maintenance, the city size category in this report will also be updated simultaneously. (Try New York city, make it become the extra large city)



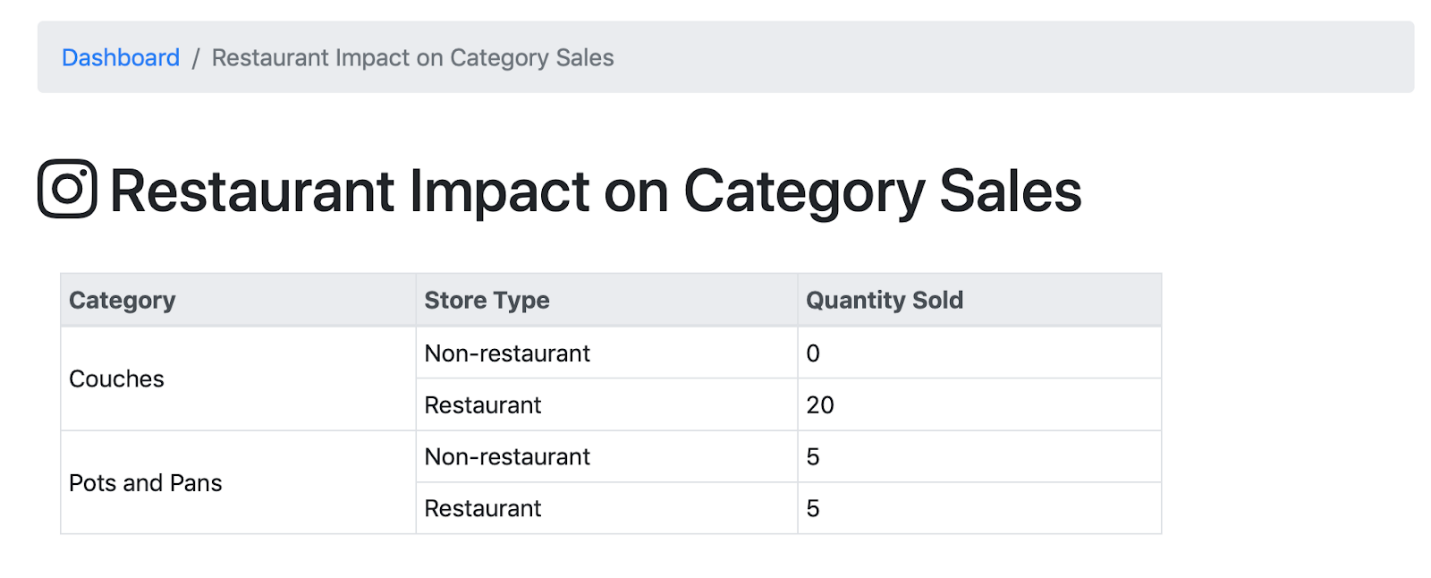
Report 7 is the report about childcare sales volumes. Users want to understand how offering childcare has an impact on sales.

1. Once the user clicks on the Childcare Sale Volume, it returns all available sales data for the last 12 months and for each childcare time limit. 2. Columns include all childcare time limits and there is also one column for no childcare limit. 3. From the results, it shows offering longer childcare time leads to higher revenue in the last 12 months.

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Report 8 is about the Restaurant Impact on Category Sales. In this report, users want to know if the presence of a restaurant can result in less sales in certain items such as dining room furniture, while more sales in other items such as beds, etc.

Click the link and shows this table. 1. The columns include category, store type, quantity sold. Store type includes non-restaurant and restaurant. 2. The report is ordered by category name ascendingly, with non-restaurant store data listed first. 3. For the Store Type that has no quantity sold, 0 will be shown in the quantity sold column. 4. Note: any categories that are not assigned products is not included in this report. From the results, we can see there are more sales with the presence of restaurant for XXXXXX categories; while there are less sales without a restaurant for XXXX categories.



Report 9 is advertising campaign analysis report. Users would like to know whether an advertising campaign affect product sales volume if the product is discounted.

1. Click the link and it returns the table with the column of product ID, product name, sold during campaign, sold outside campaign and difference (the difference column is calculated as the difference between the sold during campaign and sold outside campaign). 2. The results are sorted by difference in descending (highest to lowest) order. 3. Only the top 10, followed by the bottom 10 from the results are shown in this report. From the results, we can see for these products, advertising campaign has a positive effect on product sales volume; while for these products, advertising campaign has a negative effect on product sales volume.



For all reports, if there are no data meet the report criteria, “No Records!” will be shown.

End~

That’s it. Any questions? Again, thank you for joining us. We’ve learnt a lot from this course. Thanks! Have a good weekend……