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Major Functions:

- viewStores(Retail esql) - Justin
 - Allows all users to view stores within 30 miles of their location
- viewProducts(Retail esql) - Justin
 - Prompts users to select a store and then displays all product availability at the selected store.
 - Does NOT have a distance limitation
- placeOrder(Retail esql) - Rodrigo
 - Allows a user to place an order at a store within 30 miles of their registered location. The placed order is then echoed back to the user to view. The stock is updated in the Product table via an SQL trigger.
- viewRecentOrders(Retail esql) - Rodrigo
 - Allows a user to view up to the last 5 orders they have placed.
- updateProduct(Retail esql) - Justin
 - Allows Admins and Managers to update a product at a valid store selected through the use of a helper function and update the quantity of that product at that store. The specifics of the update as well as the user who made it is then stored in the Product Update table.
- viewRecentUpdate(Retail esql) - Justin
 - Gets a valid storeID for the query from a helper function and displays the 5 most recent Product Updates for that store.
- viewPopularProducts(Retail esql) - Rodrigo
 - Gets a valid storeID for the query from a helper function and displays the 5 most ordered products from the chosen store based on the number of orders for the product and not the total number of units ordered.
- viewPopularCustomers(Retail esql) - Rodrigo
 - Gets a valid storeID for the query from a helper function and displays the 5 most popular customers at the chosen stores based on the number of orders placed.
- placeProductSupplyRequests(Retail esql) - Justin
 - Allows Admins and Managers to submit product Supply Requests for valid stores selected through a helper function and assigned to a chosen warehouse.
- viewStoreOrders(Retail esql) - Justin
 - Admins and Managers can view all the orders placed by customers at a valid store selected through a helper function.
- adminViewUsers(Retail esql) - Justin
 - If an admin is logged in and selects this menu option they will get a printout of all currently registered users in the database.

- adminViewProducts(Retail esql) - Justin
 - If an admin is logged in and selects this menu option they will get a printout
- adminUpdateUser(Retail esql) - Justin
 - Allows an admin to change the name, password, lat/long, or type of user for any registered user account. Only the userID is unalterable. This does not enable admins to delete an account.
- viewSupplyRequests(Retail esql) - Justin
 - Allow Admins and Managers to view the 5 most recent Product Supply Requests made at a selected store determined by the user through the use of a helper function to determine validity.

Minor Functions/Modifications:

- executeQueryandPrintResult(Retail esql) - Justin
 - Modified provided method to print results to improve formatting by controlling spacing and removing empty white space from strings to provide more readable tables.
- custMenu(), manageMenu(), and adminMenu() - Justin
 - Methods to control the functions accessible for each type of user by only displaying choices for valid functions for each of the three user types.
- LogIn(Retail esql) - Rodrigo
 - Modified to return the information of the logged in user when logging in instead of just returning a flag if a valid login is provided.
- getStoreID(Retail esql) - Justin
 - Helper Function for manager/admin store selection for other functions
 - Verifies any store selection is a valid store for the user to check
 - Managers can only select stores they manage
 - Admins can select any store
- printWait() - Justin
 - Helper function to pause application operation until the user hits "Enter" in order to avoid printing of large blocks of text immediately following the printing of a query result. Intended to improve user experience.
- General Bug Fixing - Rodrigo
 - Mainly enforce user input restrictions and fix consistency issues across methods to ensure that the user experience is uniform while exploring all features.
- Adding Class Member Variables - Rodrigo
 - Added member variables to store the logged in user's userID and type (customer, manager, admin) that is accessible to all methods of the Retail class. This lowers the amount of passing needed as most functions need to know information regarding the logged in user.

Triggers:

- Update_order_trigger - **Rodrigo**
 - Added a trigger to automatically update the available quantity of a product in the Product table after an order is placed by a user and inserted into the orders table.
 - Modified the necessary scripts to initialize the trigger when the database is created and populated.

Indexes:

- Store_Manager_Index - **Justin**
 - Index to improve performance of queries looking for stores a user manages.
 - This is a relationship used by many functions so would be useful to improve the performance of queries needing this information.
- Product_Store_Index - **Justin**
 - Multiple functions query what products are available at each store so this index should help improve the performance of many functions used by all types of users.
- Customer_Order_Index - **Justin**
 - As most users are customers placing orders, by indexing the placed orders to the customer who placed it should improve performance due to the sheer number of instances if realistically deployed and not just used academically.

Extra Script:

- initialize.sh - **Justin**
 - Script to run when no PostgreSQL environment has been started to start the environment, create database, copy data files to the database prior to running the SQL scripts so file paths do not need modification for each new computer it is run on. Finally it runs the SQL scripts to populate the database and compiles and runs the Java application.