Graphical user interface, application, Teams

Description automatically generated

Task 1: A change to make getting shipping information more efficiently from the database is combine the existing order table with the customer table. This would avoid the use of the JOIN function and save processing time. However, it is susceptible to modifications anomalies for instance if one customer were to place orders to different locations.

The new business rule for this change would be to now store customer information and shipping info inside only the one table, instead of the previous 2.

Task 2: To avoid repeatedly performing calculations, a precomputed value should be stored in the Product table under an attribute called averageReview. This value will be updated and stored whenever a new review is added to a product. So now instead of performing a dynamic task, like taking the average of all the reviews every time someone visits a product page, the server will pull a static value, which only changes every so often.

The new business rule for this change is to update the individual product review value upon a new customer review.

Task 3: To avoid the excessive computation time when determining the lowest price for a product, the price attribute will be migrated to the Product table. This will remove the subquery requirement from the current SQL statement and will instead only query one table for the product ID with the minimum value for the price attribute.

The new business rule for this change is when determining the minimum price for computation, the data base will be queried for the specific product Id and present the lowest priced option.