**Assignment 5 - ERD Diagram**



**Changes: Removal of joins and runtime calculations to improve performance**

1. PostalCode and Customer tables are merged into a single **Customer** table with **CustomerID** being the primary key and all the columns of PostalCode table are inserted in the new Customer table. Hence the performance of the SQL required for the first business case is improved.
2. To improve the performance of the second and third queries, we added two attributes to the **Product** table, “**LikePercentage”** and “**MinPrice**”.

**LikePercentage** attribute stores the precomputed average value of LikeProduct for each ProductID from the ProductReview table.

**MinPrice** attribute stores the precomputed minimum price for each ProductID from the ProductVendor table.

**Instructions for the Online Retailer:**

1. In order to retrieve customer information, the online retailer has to query Customer table only to get all the information including PostalCode, City, and State into a single query.

**Eg:** SELECT FirstName, LastName, Address1, Address2, City, State, PostalCode

FROM Customer

WHERE CustomerID = 133;

1. In order to retrieve percentage of customers who “like” the product and the lowest current vendor price to be displayed, the retailer has to refer only Product table as it contains the pre-calculated values.

**To retrieve lowest current vendor price:**

**Eg:** SELECT ProductID, Description, MinPrice

FROM Product

WHERE ProductID = 7741;

**To retrieve percentage of customers who “like” the product:**

**Eg**: SELECT LikePercentage

FROM Product

WHERE ProductID = 5824;