SQL Queries During Guided Project: 7/24/23

In this project, we review SQL queries at their most basic forms. The following lines of code reflect investigations into SQLite databases.

SELECT custid, custlastname

FROM customer

\*These two lines of code are the beginning queries for this project. SELECT will allow us to pull out anything from the chosen database. In this line, “custid” and “custlastname” are the data columns that we are pulling for further investigation. FROM tells the query where to pull the information from. In this case, we are pulling the data FROM the “customer” data set. \*

SELECT \*

FROM orderitem;

\*\* In the second query, we investigate a new dataset in our database, named “orderitem”. What is unique about this query compared to the previous one is that the first line contains an \* after “SELECT”. When this is done, the query will choose all of the information from the dataset that is in the FROM clause. In this case, we have selected and pulled all of the information from the “orderitem” dataset. The five columns of this dataset, “OrderNum,” “ProdId,” “Quality,” “Price,” and “DiscountLevel” all display their information for us to reference. \*\*

SELECT \*

FROM orderitem

WHERE DiscountLevel = ‘b’;

\*\*\* In the third query, we have now added a WHERE clause. WHERE clauses limit and specify what we are looking for in a query in more detail. So, while the SELECT clause will allow you to choose information from the dataset, and FROM will allow you to choose from the collection of datasets in the database, the WHERE clause specifies what conditions you want the data to meet. In English, the WHERE clause narrows your search by a condition. In this case, we have successfully limited our search to only include a DiscountLevel of ‘b’. Only these items will be returned during the query. \*\*\*

SELECT \*

FROM orderitem

WHERE DiscountLevel = ‘b’

AND Price > 50

\*\*\*\* In the fourth query, we have added a second limiting factor to our search. “AND” connects additional commands to the selected step. In this case, we are adding “AND” to show that we not only want information about discount level ‘b’, but also only files that are more than $50. \*\*\*\*

SELECT \*

FROM product

ORDER BY prodcost

\*\*\*\*\* In the fifth query, we have changed our search to the product table. We have also added a new modifier, “ORDER BY”. The ORDER BY function must come at the end of the query, after both the SELECT and FROM clauses. If this query had a WHERE clause, the ORDER BY clause would go AFTER it. So the order for these queries is SELECT, FROM, WHERE, ORDER BY. There are also additional mini clauses that can be attatched to the ORDER BY function. For example, ORDER BY desc will order everything queried in a descending order. \*\*\*\*\*

SELECT \*

FROM product

ORDER BY prodcode, prodcost;

\*\*\*\*\*\* In the sixth query, we expand the ORDER BY clause to have two additional mini clauses. These clauses will now order the resulting queries by both the prodcode and the prodcost columns. Note that while there isn’t technically a limit to the amount of mini clauses that you can attach to the ORDER BY clause, the load time may increase depending on how many you add to it. \*\*\*\*\*\*

SELECT custlastname, custfirstname, ordnum, orddate

FROM customer

JOIN Customer.CustID = Orders.OrdCustID

ORDER BY custlastname

\*\*\*\*\*\*\* In the seventh and final query of our project, we use the “JOIN” clause in our query. JOIN takes information from two tables that have the same data in its table and combines them together for comparison and analysis. In this scenario, we have selected the last name, first name, order number, and order date of our customers. We are pulling this information from the “customer” database. Next, we use JOIN to combine two tables in that database: the Customer and Order tables. Finally, we order them by the last name of the customer. JOIN clauses are great for combining tables and comparing the information within them. However, it’s important to note that a JOIN will only work when the information between both tables has at least one shared column. That shared column will be the linking area for the two tables to be compared. \*\*\*\*\*\*\*