Key Tasks

In this project, you will implement several SQL commands, and practice data manipulation operations and information retrieval to answer several business questions. Your submission will include all required SQL commands with the command execution output and a brief write-up about the business question that you think the SQL query answers in a single Word document.

For Project 1, complete the following key tasks:

1. Run the Inventory\_DB.sql Download Inventory\_DB.sqlscript to create the database tables.

Define and execute SQL queries that show the content of each table.

2. Define and execute SQL queries to display data for one or more columns:

A. Write a query that displays the SKU, ItemName, and UnitPrice for all inventory items.

What business question do you think this SQL query answers?

How can the results of this query be beneficial or applied by the business?

B. Write a query that displays all the invoices for supplier ID 1 with a total value greater than 10,000. Display only the Invoice ID, Invoice Date, Supplier ID, and the Invoice Total Value.

What business question do you think this SQL query answers?

How can the results of this query be beneficial or applied by the business?

3. Define and execute SQL queries to sort retrieved data:

A. Write a query that retrieves the SKU, name, and unit price of all inventory items, sorted in descending order by unit price.

What business question do you think this SQL query answers?

How can the results of this query be beneficial or applied by the business?

B. Write an SQL query to display all invoices, sorted by InvoiceDate in descending order.

What business question do you think this SQL query answers?

How can the results of this query be beneficial or applied by the business?

4. Define and execute SQL queries to generate data:

A. Write a query that displays the SKU, ItemName, and the number of months between today and the InvoiceDate for all inventory items, rounded to one decimal place.

What business question do you think this SQL query answers?

How can the results of this query be beneficial or applied by the business?

5. Use functions to complete the following, and specify what business question you think each SQL query answers and how can the result of each of the query be beneficial or applied by the business :

A. Write a query that filters and displays all rows from the InventoryItems table such that the following parameters are true:

The UnitPrice is greater than 50

The CategoryID is equal to 2

The ItemName contains the word 'Chair'

B. Write a query to find the average stock count of inventory items in each warehouse.

C. Write a query to find how many unique consumers who made purchases in 2023?

D. Write a query to display the minimum and maximum UnitPrice of all items in each category.

E. Calculate the total revenue from all sales.

6. Define and execute SQL commands to insert, update, and delete table records:

You need to complete the following:

A. You are required to manage the inventory database by inserting new records. Follow the steps below to ensure data integrity.

Insert a New Category:

Write a SQL command to add a new category for inventory items with the following details:

CategoryID: 4

CategoryName: 'D'

Insert a New Inventory Item:

Write a SQL command to add a new inventory item with the following details, ensuring it references the newly added category:

SKU: 1010

ItemName: 'Ergonomic Chair'

CategoryID: 4

UnitPrice: 125.00

Insert Inventory Stock Information:

Write SQL command to add stock information for the new inventory item in a warehouse. Use the following details:

SKU: 1010

WarehouseID: 1

StockCount: 40

B. Define and execute SQL command to update the UnitPrice of the item with SKU = 1007 (Headphones) in the InventoryItems table to 79.99

C. Define and execute SQL command to delete the supplier with SupplierID = 4 .

D. Commit the changes (Note: make sure to commit the data transactions for Section 6 before proceeding to Section 7).

What is the importance of these SQL commands? Why would the business apply these SQL commands?

7. Joining data from tables:

A. Write a query to list the ConsumerID, ConsumerFirstName, and the total value of their invoices, ensuring that you only get consumers who have made purchases.

What business question do you think this SQL query answers?

B. Write a SQL query to display the WarehouseName, ItemName, and StockCount for all items with a stock level below 20.

What business question do you think this SQL query answers?

C. Write a SQL query to display the SKU, ItemName, StockCount, and WarehouseName for all items in Category A.

What business question do you think this SQL query answers?