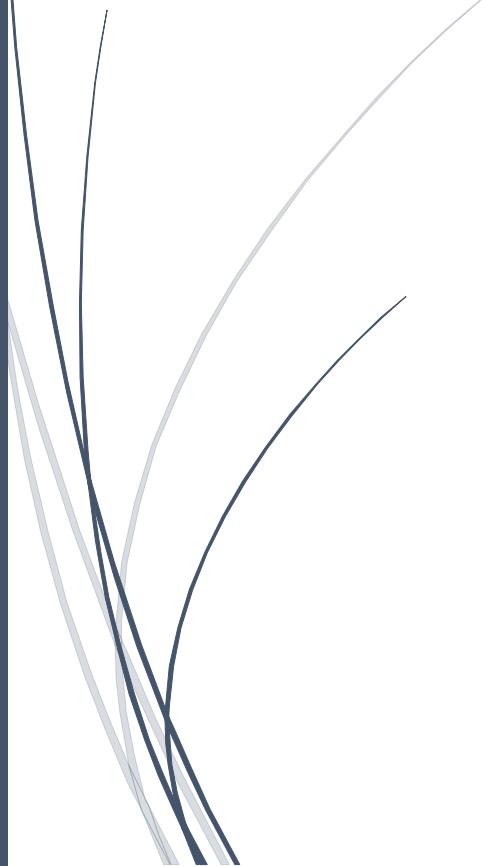


11/30/2023

# CityTech Retail

## Database Management System (OLTP)



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## Overview

The CityTech Retail Database Management System, denoted by the ProfG\_FP suffix across all objects, is a cutting-edge solution designed to elevate the organization's operational efficiency, data security, and reporting capabilities. The company's diverse product offerings, coupled with its online and physical presence, necessitated a tailored approach to meet the unique needs of each department.

The system begins with the creation, population, and secure management of entities, ensuring 30 rows of data per entity through wizard. Security measures are implemented to protect sensitive client data, including email addresses, phone numbers, and credit cards, from unauthorized access.

To address operational questions and enhance decision-making, fifteen detailed scripts and reports are described, showcasing the system's capability to provide insightful answers. Automation of critical business rules and processes is identified, focusing on areas such as Human Resources, Customer Relations, Sales, and Product Management.

The project addresses performance concerns with a strategic resolution to optimize the system during the execution of canned reports. Additionally, a data retention policy is introduced, defining a structured approach to manage data longevity.

Payloads in JSON format are generated to facilitate downstream consumption, aligning with modern data exchange standards. Four stored procedures are crafted and tested to implement essential business rules, offering efficiency in data processing. Further fortification is achieved through the implementation of seven triggers across various tables, ensuring data integrity through well-defined actions for inserts, updates, and deletes.

This documentation encapsulates a meticulous and holistic approach to designing and implementing the CityTech Retail Database Management System, underscoring our commitment to excellence in data management, security, and business intelligence.

## Database Design Deliverable #1 - Business Rules

The following pages below contain the Business Requirements captured by the Business Analyst:

### **Human Resources:**

1. An employee must have a unique email address.
2. Employee positions must be specified (not NULL).
3. Employees must belong to a department.
4. Employee training records should include details such as training name, date, trainer, and duration. With the duration unit expressed in weeks.
5. Employee evaluations must include a rating and evaluation type.
6. Employee login credentials must have a unique username.

### **Customer Relations:**

7. Customers must have unique email addresses.
8. Customer service requests should include details such as request date, type, description, status, and rating.
9. Customer rating should be between 1 and 5.
10. Credit card information should be securely stored and have an activation status.
11. Customer credit card balances, limits and activation status should be tracked. Represent active credit cards with "1" and inactive ones with "0."

### **Marketing:**

12. Each Campaign must have a unique CampaignID.
13. Advertisements must be associated with a CampaignID.
14. Target audiences should be defined with age groups, gender, location, and interests.
15. Advertisement Click through Rate is in millions.

**Sales:**

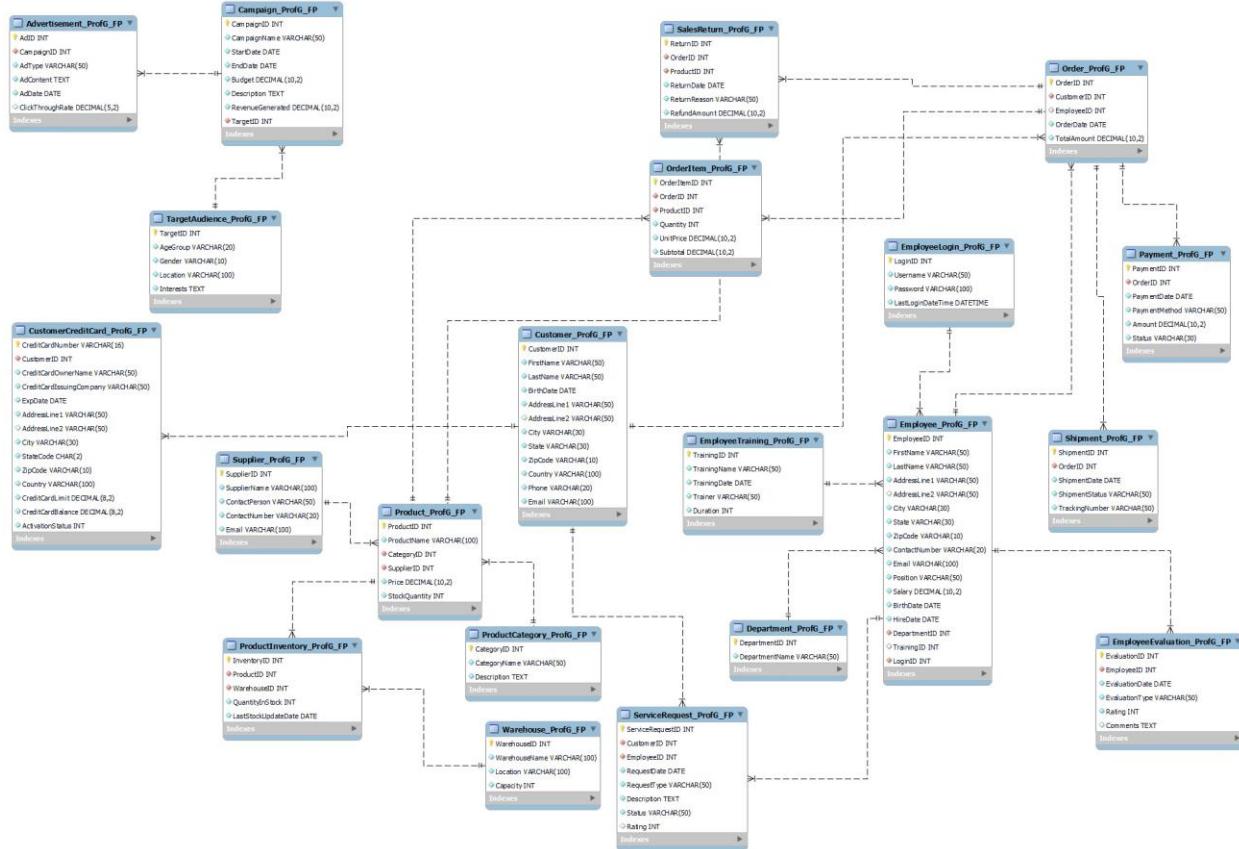
16. Orders must have a customer ID and an order date.
17. Order items should connect to product details and include quantity, unit price, and subtotal.
18. Payments must be associated with an order and include details like date, method, amount, and status.
19. Shipment details, including tracking numbers and statuses, must be recorded for each order.

**Product Management:**

20. Product prices must be non-negative. (SQL Representation: CHECK (Price >= 0))
21. Products should have positive stock quantities.
22. Supplier contact information must be complete for effective communication and sustainable supply.
23. Warehouse Capacity is in cubic feet.

## Database Design Deliverable #2 - Entity Relationship Diagram (ERD)

- The Physical Model Schema Design Diagram is Created below and will be **USED TO IMPLEMENT THE DATABASE** in the DBMS.



## Database Implementation Deliverable #3 - Development & Implementation

- ❑ This sub-section describes the **THIRD DATABASE DELIVERABLE** of the database design and implementation process, which is the Database Implementation Phase or implementing the Database.
- ❑ This sub-section is to **IMPLEMENT/CREATE** the DATABASE APPLICATION using Database Design Deliverable #2 – Physical Model Schema Design Diagram in addition to **MySQL Workbench CREATE TABLE STATEMENTS** to **CREATE** every **TABLE & RELATIONSHIP** listed in the Physical Model Schema Design Diagram.

**The following is the table divided in each department/entity:**

Human Resources:

- Employee\_ProfG\_FP
- Department\_ProfG\_FP
- EmployeeLogin\_ProfG\_FP
- EmployeeTraining\_ProfG\_FP
- EmployeeEvaluation\_ProfG\_FP

Customer Relations:

- Customer\_ProfG\_FP
- ServiceRequest\_ProfG\_FP
- CustomerCreditCard\_ProfG\_FP

Marketing:

- Campaign\_ProfG\_FP
- Advertisement\_ProfG\_FP
- TargetAudience\_ProfG\_FP

Sales:

- Order\_ProfG\_FP
- OrderItem\_ProfG\_FP
- Payment\_ProfG\_FP
- Shipment\_ProfG\_FP
- SalesReturn\_ProfG\_FP

Product Management:

- Product\_ProfG\_FP
- Supplier\_ProfG\_FP
- ProductCategory\_ProfG\_FP
- ProductInventory\_ProfG\_FP
- Warehouse\_ProfG\_FP

**Below is the create table statements and foreign key constraints implemented in MySQL Workbench:**

```
-- Human Resources
-- Employee Table
CREATE TABLE Employee_ProfG_FP (
    EmployeeID INT PRIMARY KEY,
    FirstName VARCHAR(50) NOT NULL,
    LastName VARCHAR(50) NOT NULL,
    AddressLine1 VARCHAR(50) NOT NULL,
    AddressLine2 VARCHAR(50) NULL,
    City VARCHAR(30) NOT NULL,
    State VARCHAR(30) NOT NULL,
    ZipCode VARCHAR(10) NOT NULL,
    ContactNumber VARCHAR(20) NOT NULL,
    Email VARCHAR(100) NOT NULL UNIQUE,
    Position VARCHAR(50) NOT NULL,
    Salary DECIMAL(10, 2) NOT NULL,
    BirthDate DATE NOT NULL,
    HireDate DATE NOT NULL,
    DepartmentID INT NOT NULL,
    TrainingID INT NULL,
    LoginID INT NOT NULL
);
```

```
-- Department Table
```

```
CREATE TABLE Department_ProfG_FP (
    DepartmentID INT PRIMARY KEY,
    DepartmentName VARCHAR(50) NOT NULL
);
```

```
-- EmployeeLogin Table
```

```
CREATE TABLE EmployeeLogin_ProfG_FP (
    LoginID INT PRIMARY KEY,
    Username VARCHAR(50) NOT NULL UNIQUE,
    Password VARCHAR(100) NOT NULL,
    LastLoginDateTime DATETIME NOT NULL
);
```

```
-- EmployeeTraining Table
```

```
CREATE TABLE EmployeeTraining_ProfG_FP (
    TrainingID INT PRIMARY KEY,
    TrainingName VARCHAR(50) NOT NULL,
    TrainingDate DATE NOT NULL,
    Trainer VARCHAR(50) NOT NULL,
    Duration INT NOT NULL
);
```

```
-- EmployeeEvaluation Table
```

```
CREATE TABLE EmployeeEvaluation_ProfG_FP (
    EvaluationID INT PRIMARY KEY,
    EmployeeID INT NOT NULL,
    EvaluationDate DATE NOT NULL,
```

```
EvaluationType VARCHAR(50) NOT NULL,  
Rating INT NOT NULL,  
Comments TEXT NULL  
);
```

```
-- Customer Relations
```

```
-- Customer Table
```

```
CREATE TABLE Customer_ProfG_FP
```

```
(  
CustomerID INT PRIMARY KEY,  
FirstName VARCHAR(50) NOT NULL,  
LastName VARCHAR(50) NOT NULL,  
BirthDate DATE NOT NULL,  
AddressLine1 VARCHAR(50) NOT NULL,  
AddressLine2 VARCHAR(50) NULL,  
City VARCHAR(30) NOT NULL,  
State VARCHAR(30) NOT NULL,  
ZipCode VARCHAR(10) NOT NULL,  
Country VARCHAR(100) NOT NULL,  
Phone VARCHAR(20) NOT NULL,  
Email VARCHAR(100) UNIQUE NOT NULL
```

```
);
```

```
-- ServiceRequest Table
```

```
CREATE TABLE ServiceRequest_ProfG_FP (  
ServiceRequestID INT PRIMARY KEY,  
CustomerID INT NOT NULL,  
EmployeeID INT NOT NULL,  
RequestDate DATE NOT NULL,
```

```
    RequestType VARCHAR(50) NOT NULL,  
    Description TEXT NOT NULL,  
    Status VARCHAR(50) NOT NULL,  
    Rating INT CHECK (Rating BETWEEN 1 AND 5) NOT NULL  
);
```

```
-- CustomerCreditCard Table  
  
CREATE TABLE CustomerCreditCard_ProfG_FP  
(  
    CreditCardNumber VARCHAR(16) PRIMARY KEY,  
    CustomerID INT NOT NULL,  
    CreditCardOwnerName VARCHAR(50) NOT NULL,  
    CreditCardIssuingCompany VARCHAR(50) NOT NULL,  
    ExpDate DATE NOT NULL,  
    AddressLine1 VARCHAR(50) NOT NULL,  
    AddressLine2 VARCHAR(50) NULL,  
    City VARCHAR(30) NOT NULL,  
    StateCode CHAR(2) NOT NULL,  
    ZipCode VARCHAR(10) NOT NULL,  
    Country VARCHAR(100) NOT NULL,  
    CreditCardLimit DECIMAL(8, 2) NOT NULL,  
    CreditCardBalance DECIMAL(8, 2) NOT NULL,  
    ActivationStatus INT CHECK(ActivationStatus IN ('0', '1')) NOT NULL  
);
```

---

```
-- Marketing  
-- Campaign Table  
  
CREATE TABLE Campaign_ProfG_FP (
```

```
CampaignID INT PRIMARY KEY,  
CampaignName VARCHAR(50) NOT NULL,  
StartDate DATE NOT NULL,  
EndDate DATE NOT NULL,  
Budget DECIMAL(10, 2) NOT NULL,  
Description TEXT NOT NULL,  
RevenueGenerated DECIMAL(10, 2) NOT NULL,  
TargetID INT NOT NULL  
);
```

```
-- Advertisement Table  
CREATE TABLE Advertisement_ProfG_FP (  
AdID INT PRIMARY KEY,  
CampaignID INT NOT NULL,  
AdType VARCHAR(50) NOT NULL,  
AdContent TEXT NOT NULL,  
AdDate DATE NOT NULL,  
ClickThroughRate DECIMAL(5, 2) NULL  
);
```

```
-- TargetAudience Table  
CREATE TABLE TargetAudience_ProfG_FP (  
TargetID INT PRIMARY KEY,  
AgeGroup VARCHAR(20) NOT NULL,  
Gender VARCHAR(10) NOT NULL,  
Location VARCHAR(100) NOT NULL,  
Interests TEXT NOT NULL  
);
```

```
-- Sales  
  
-- Order Table  
  
CREATE TABLE Order_ProfG_FP (  
    OrderID INT PRIMARY KEY,  
    CustomerID INT NOT NULL,  
    EmployeeID INT NULL,  
    OrderDate DATE NULL,  
    TotalAmount DECIMAL(10, 2) NOT NULL  
);
```

```
-- OrderItem Table  
  
CREATE TABLE OrderItem_ProfG_FP (  
    OrderItemID INT PRIMARY KEY,  
    OrderID INT NOT NULL,  
    ProductID INT NOT NULL,  
    Quantity INT NOT NULL,  
    UnitPrice DECIMAL(10, 2) NOT NULL,  
    Subtotal DECIMAL(10, 2) NOT NULL  
);
```

```
-- Payment Table  
  
CREATE TABLE Payment_ProfG_FP (  
    PaymentID INT PRIMARY KEY,  
    OrderID INT NOT NULL,  
    PaymentDate DATE NOT NULL,  
    PaymentMethod VARCHAR(50) NOT NULL,  
    Amount DECIMAL(10, 2) NOT NULL,
```

```
Status VARCHAR(30) NOT NULL  
);
```

-- Shipment Table

```
CREATE TABLE Shipment_ProfG_FP (  
    ShipmentID INT PRIMARY KEY,  
    OrderID INT NOT NULL,  
    ShipmentDate DATE NOT NULL,  
    ShipmentStatus VARCHAR(50) NOT NULL,  
    TrackingNumber VARCHAR(50) NOT NULL  
);
```

-- SalesReturn Table

```
CREATE TABLE SalesReturn_ProfG_FP (  
    ReturnID INT PRIMARY KEY,  
    OrderID INT NOT NULL,  
    ProductID INT NOT NULL,  
    ReturnDate DATE NOT NULL,  
    ReturnReason VARCHAR(50) NOT NULL,  
    RefundAmount DECIMAL(10, 2) NOT NULL  
);
```

---

-- Product Management

-- Product Table

```
CREATE TABLE Product_ProfG_FP (  
    ProductID INT PRIMARY KEY,  
    ProductName VARCHAR(100) NOT NULL,  
    CategoryID INT NOT NULL,
```

```
SupplierID INT NOT NULL,  
Price DECIMAL(10, 2) NOT NULL CHECK(Price >= 0),  
StockQuantity INT NOT NULL CHECK(StockQuantity >= 0)  
);
```

-- Supplier Table

```
CREATE TABLE Supplier_ProfG_FP (  
SupplierID INT PRIMARY KEY,  
SupplierName VARCHAR(100) NOT NULL,  
ContactPerson VARCHAR(50) NOT NULL,  
ContactNumber VARCHAR(20) NOT NULL,  
Email VARCHAR(100) NOT NULL  
);
```

-- ProductReview Table

```
CREATE TABLE ProductReview_ProfG_FP (  
ReviewID INT PRIMARY KEY,  
ProductID INT NOT NULL,  
CustomerID INT NOT NULL,  
Rating INT NOT NULL,  
ReviewDate DATE NOT NULL,  
Comments TEXT NOT NULL  
);
```

-- ProductCategory Table

```
CREATE TABLE ProductCategory_ProfG_FP (  
CategoryID INT PRIMARY KEY,  
CategoryName VARCHAR(50) NOT NULL,  
Description TEXT NOT NULL
```

```
);
```

```
-- ProductInventory Table
```

```
CREATE TABLE ProductInventory_ProfG_FP (
    InventoryID INT PRIMARY KEY,
    ProductID INT NOT NULL,
    WarehouseID INT NOT NULL,
    QuantityInStock INT NOT NULL,
    LastStockUpdateDate DATE NOT NULL
);
```

```
-- Warehouse Table
```

```
CREATE TABLE Warehouse_ProfG_FP (
    WarehouseID INT PRIMARY KEY,
    WarehouseName VARCHAR(100) NOT NULL,
    Location VARCHAR(100) NOT NULL,
    Capacity INT NOT NULL
);
```

```
-- Add Foreign Key Constraints
```

```
-- Human Resource
```

```
-- Employee Table
```

```
ALTER TABLE Employee_ProfG_FP
```

```
ADD CONSTRAINT fk_DepartmentID FOREIGN KEY (DepartmentID)
```

```
REFERENCES Department_ProfG_FP(DepartmentID)
```

```
ON DELETE CASCADE;
```

```
ALTER TABLE Employee_ProfG_FP
```

```
ADD CONSTRAINT fk_TrainingID FOREIGN KEY (TrainingID)
```

```
REFERENCES EmployeeTraining_ProfG_FP(TrainingID)  
ON DELETE CASCADE;
```

```
ALTER TABLE Employee_ProfG_FP  
ADD CONSTRAINT fk_LoginID FOREIGN KEY (LoginID)  
REFERENCES EmployeeLogin_ProfG_FP(LoginID)  
ON DELETE CASCADE;
```

```
-- Department Table
```

```
-- EmployeeLogin Table
```

```
-- EmployeeTraining Table
```

```
-- EmployeeEvaluation Table  
ALTER TABLE EmployeeEvaluation_ProfG_FP  
ADD CONSTRAINT fk_EmployeeID_Evaluation FOREIGN KEY (EmployeeID)  
REFERENCES Employee_ProfG_FP(EmployeeID)  
ON DELETE CASCADE;
```

```
-----
```

```
-- Customer Relations  
-- Customer Table
```

```
-- ServiceRequest Table  
ALTER TABLE ServiceRequest_ProfG_FP  
ADD CONSTRAINT fk_CustomerID_Request FOREIGN KEY (CustomerID)  
REFERENCES Customer_ProfG_FP(CustomerID)  
ON DELETE CASCADE;
```

```
ALTER TABLE ServiceRequest_ProfG_FP  
ADD CONSTRAINT fk_EmployeeID_Request FOREIGN KEY (EmployeeID)  
REFERENCES Employee_ProfG_FP(EmployeeID)  
ON DELETE CASCADE;
```

-- CustomerCreditcard Table

```
ALTER TABLE CustomerCreditCard_ProfG_FP  
ADD CONSTRAINT fk_CustomerID_CreditCard FOREIGN KEY (CustomerID)  
REFERENCES Customer_ProfG_FP(CustomerID)  
ON DELETE CASCADE;
```

---

-- Marketing

-- Campaign Table

```
ALTER TABLE Campaign_ProfG_FP  
ADD CONSTRAINT fk_TargetID_Campaign FOREIGN KEY (TargetID)  
REFERENCES TargetAudience_ProfG_FP(TargetID)  
ON DELETE CASCADE;
```

-- Advertisement Table

```
ALTER TABLE Advertisement_ProfG_FP  
ADD CONSTRAINT fk_CampaignID_Advertisement FOREIGN KEY (CampaignID)  
REFERENCES Campaign_ProfG_FP(CampaignID)  
ON DELETE CASCADE;
```

---

-- Sales

-- Order Table

```
ALTER TABLE Order_ProfG_FP  
ADD CONSTRAINT fk_CustomerID_Order FOREIGN KEY (CustomerID)  
REFERENCES Customer_ProfG_FP(CustomerID)  
ON DELETE CASCADE;
```

```
ALTER TABLE Order_ProfG_FP  
ADD CONSTRAINT fk_EmployeeID_Order FOREIGN KEY (EmployeeID)  
REFERENCES Employee_ProfG_FP(EmployeeID)  
ON DELETE CASCADE;
```

```
-- OrderItem Table  
ALTER TABLE OrderItem_ProfG_FP  
ADD CONSTRAINT fk_OrderID_OrderItem FOREIGN KEY (OrderID)  
REFERENCES Order_ProfG_FP(OrderID)  
ON DELETE CASCADE;
```

```
ALTER TABLE OrderItem_ProfG_FP  
ADD CONSTRAINT fk_ProductID_OrderItem FOREIGN KEY (ProductID)  
REFERENCES Product_ProfG_FP(ProductID)  
ON DELETE CASCADE;
```

```
-- Payment Table  
ALTER TABLE Payment_ProfG_FP  
ADD CONSTRAINT fk_OrderID_Payment FOREIGN KEY (OrderID)  
REFERENCES Order_ProfG_FP(OrderID)  
ON DELETE CASCADE;
```

```
-- Shipment Table
```

```
ALTER TABLE Shipment_ProfG_FP  
ADD CONSTRAINT fk_OrderID_Shipment FOREIGN KEY (OrderID)  
REFERENCES Order_ProfG_FP(OrderID)  
ON DELETE CASCADE;
```

```
-- SalesReturn Table  
  
ALTER TABLE SalesReturn_ProfG_FP  
ADD CONSTRAINT fk_OrderID_Return FOREIGN KEY (OrderID)  
REFERENCES Order_ProfG_FP(OrderID)  
ON DELETE CASCADE;
```

```
ALTER TABLE SalesReturn_ProfG_FP  
ADD CONSTRAINT fk_ProductID_Return FOREIGN KEY (ProductID)  
REFERENCES Product_ProfG_FP(ProductID)  
ON DELETE CASCADE;
```

```
-----  
  
-- Product Management  
  
-- Product Table  
  
ALTER TABLE Product_ProfG_FP  
ADD CONSTRAINT fk_CategoryID FOREIGN KEY (CategoryID)  
REFERENCES ProductCategory_ProfG_FP(CategoryID)  
ON DELETE CASCADE;
```

```
ALTER TABLE Product_ProfG_FP  
ADD CONSTRAINT fk_SupplierID_Product FOREIGN KEY (SupplierID)  
REFERENCES Supplier_ProfG_FP(SupplierID)  
ON DELETE CASCADE;
```

```
-- Supplier Table
```

```
-- ProductReview Table
```

```
ALTER TABLE ProductReview_ProfG_FP
```

```
ADD CONSTRAINT fk_ProductID_Review FOREIGN KEY (ProductID)
```

```
REFERENCES Product_ProfG_FP(ProductID)
```

```
ON DELETE CASCADE;
```

```
ALTER TABLE ProductReview_ProfG_FP
```

```
ADD CONSTRAINT fk_CustomerID_Review FOREIGN KEY (CustomerID)
```

```
REFERENCES Customer_ProfG_FP(CustomerID)
```

```
ON DELETE CASCADE;
```

```
-- ProductCategory Table
```

```
-- ProductInventory Table
```

```
ALTER TABLE ProductInventory_ProfG_FP
```

```
ADD CONSTRAINT fk_ProductID_Inventory FOREIGN KEY (ProductID)
```

```
REFERENCES Product_ProfG_FP(ProductID)
```

```
ON DELETE CASCADE;
```

```
ALTER TABLE ProductInventory_ProfG_FP
```

```
ADD CONSTRAINT fk_WarehouseID FOREIGN KEY (WarehouseID)
```

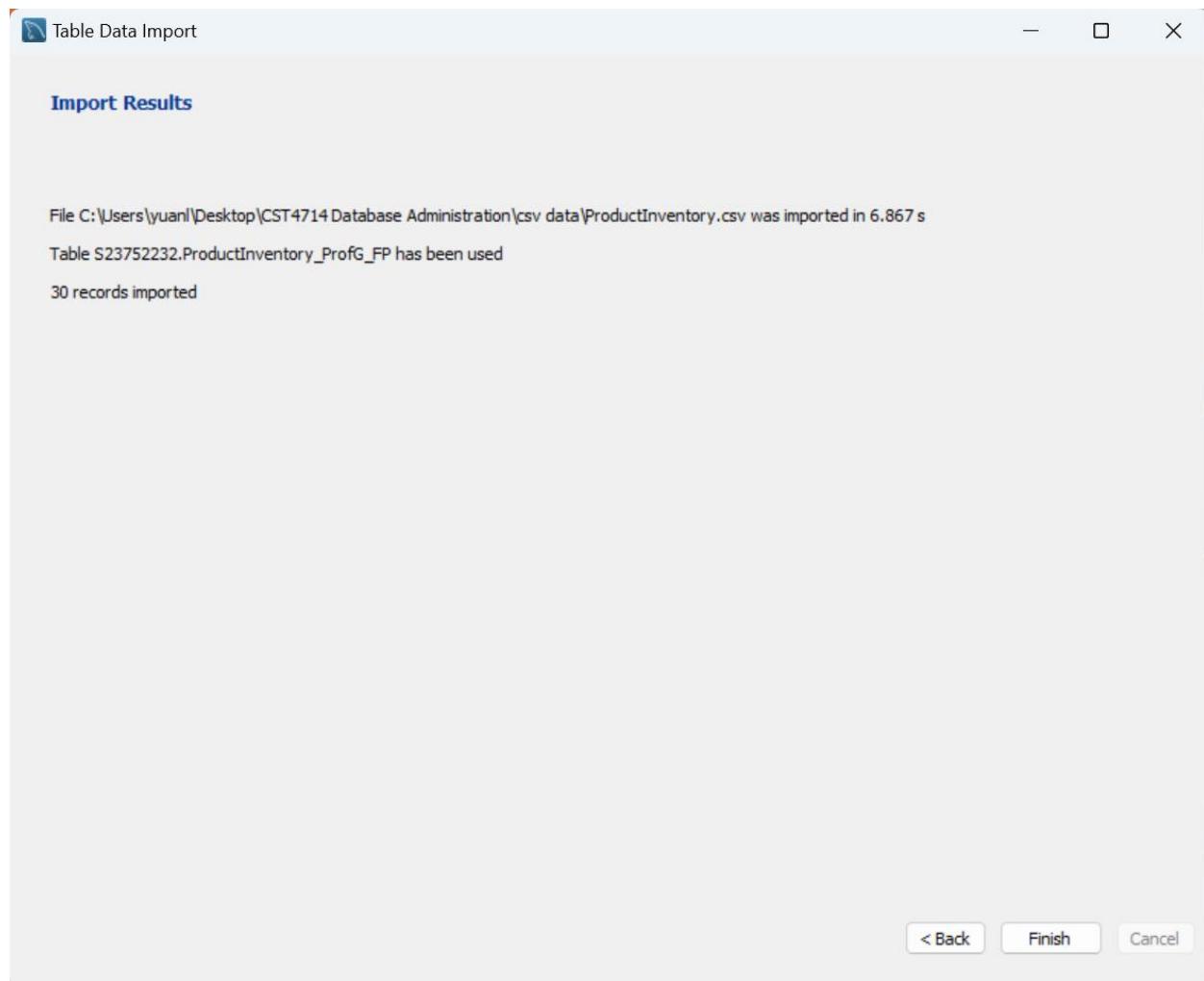
```
REFERENCES Warehouse_ProfG_FP(WarehouseID)
```

```
ON DELETE CASCADE;
```

```
-- Warehouse Table
```

```
-- END OF THE CODE
```

The 21 tables are populated with MySQL Workbench wizard import.



## JSON Payloads for Downstream Consumption

### ❖ JSON Payload #1

**Employee Payload:** This payload represents an employee's details, including their ID, contact information, position, and department. It includes a training ID for employee training records and a login ID for authentication.

#### ➤ Query for JSON Payload #1:

```
SELECT
    JSON_OBJECT(
        'EmployeeID', EmployeeID,
        'FirstName', FirstName,
        'LastName', LastName,
        'AddressLine1', AddressLine1,
        'City', City,
        'State', State,
        'ZipCode', ZipCode,
        'ContactNumber', ContactNumber,
        'Email', Email,
        'Position', Position,
        'Salary', Salary,
        'BirthDate', BirthDate,
        'HireDate', HireDate,
        'DepartmentID', DepartmentID,
        'TrainingID', TrainingID,
        'LoginID', LoginID
    ) AS EmployeeJSON
FROM employees
WHERE EmployeeID = 1; -- Replace with the desired employee ID
```

➤ Output Result for JSON Payload #1:

The screenshot shows the SQL Server Management Studio interface. In the top pane, a query window displays the following T-SQL code:

```

1199 • SELECT
1200     JSON_OBJECT(
1201         'EmployeeID', EmployeeID,
1202         'FirstName', FirstName,
1203         'LastName', LastName,
1204         'AddressLine1', AddressLine1,
1205         'City', City,
1206         'State', State,
1207         'ZipCode', ZipCode,
1208         'ContactNumber', ContactNumber,
1209         'Email', Email,
1210         'Position', Position,
1211         'Salary', Salary,
1212         'BirthDate', BirthDate,
1213         'HireDate', HireDate,
1214         'DepartmentID', DepartmentID,
1215         'TrainingID', TrainingID,
1216         'LoginID', LoginID
1217     ) AS EmployeeJSON
1218 FROM Employee_ProfG_FP
1219 WHERE EmployeeID = 1; -- Replace with the desired employee ID
1220

```

The results grid below shows the output of the query, which is a single row of JSON data:

EmployeeJSON
{"City": "Carson City", "Email": "eikins0@webs.com", "State": "Nevada", "Salary": 45672.7, "LoginID": 1, "ZipCode": "89714", "HireDate": "2002-11-08", "LastName": "Ikins", "Position": "Sales Support Specialist", "BirthDate": "1990-06-23", "FirstName": "Elka", "EmployeeID": 1, "TrainingID": 1, "AddressLine1": "9712 Kenwood Alley", "DepartmentID": 2, "ContactNumber": "654-269-4247"}

In the bottom pane, the SQL Profiler output window shows the execution history of the session:

Action	Time	Action	Message	Duration / Fetch
select * from Supplier_ProfG_FP LIMIT 0, 1000	425 06:01:45		6 row(s) returned	0.016 sec / 0.000 sec
select * from TargetAudience_ProfG_FP LIMIT 0, 1000	426 06:02:18		30 row(s) returned	0.016 sec / 0.000 sec
select * from Warehouse_ProfG_FP LIMIT 0, 1000	427 06:02:28		4 row(s) returned	0.016 sec / 0.000 sec
SELECT JSON_OBJECT( 'EmployeeID', EmployeeID, 'FirstName', FirstName, 'LastName', LastName, 'Position', Position, 'BirthDate', BirthDate, 'HireDate', HireDate, 'DepartmentID', DepartmentID, 'TrainingID', TrainingID, 'LoginID', LoginID ) AS EmployeeJSON	428 06:52:15	Err Code: 1146. Table '523752232employees' doesn't exist		0.063 sec
SELECT JSON_OBJECT( 'EmployeeID', EmployeeID, 'FirstName', FirstName, 'LastName', LastName )	429 06:52:59	1 row(s) returned		0.032 sec / 0.000 sec

➤ The output opens in viewer:

The screenshot shows the 'Edit Data for EmployeeJSON (JSON)' dialog. The JSON content is displayed in the 'Text' tab:

```

1   {
2       "City": "Carson City",
3       "Email": "eikins0@webs.com",
4       "State": "Nevada",
5       "Salary": 45672.7,
6       "LoginID": 1,
7       "ZipCode": "89714",
8       "HireDate": "2002-11-08",
9       "LastName": "Ikins",
10      "Position": "Sales Support Specialist",
11      "BirthDate": "1990-06-23",
12      "FirstName": "Elka",
13      "EmployeeID": 1,
14      "TrainingID": 1,
15      "AddressLine1": "9712 Kenwood Alley",
16      "DepartmentID": 2,
17      "ContactNumber": "654-269-4247"
18  }

```

The 'Text' tab is selected at the bottom. Other tabs include 'Binary' and 'JSON'. The status bar at the bottom left shows 'Data Length: 449 bytes'.

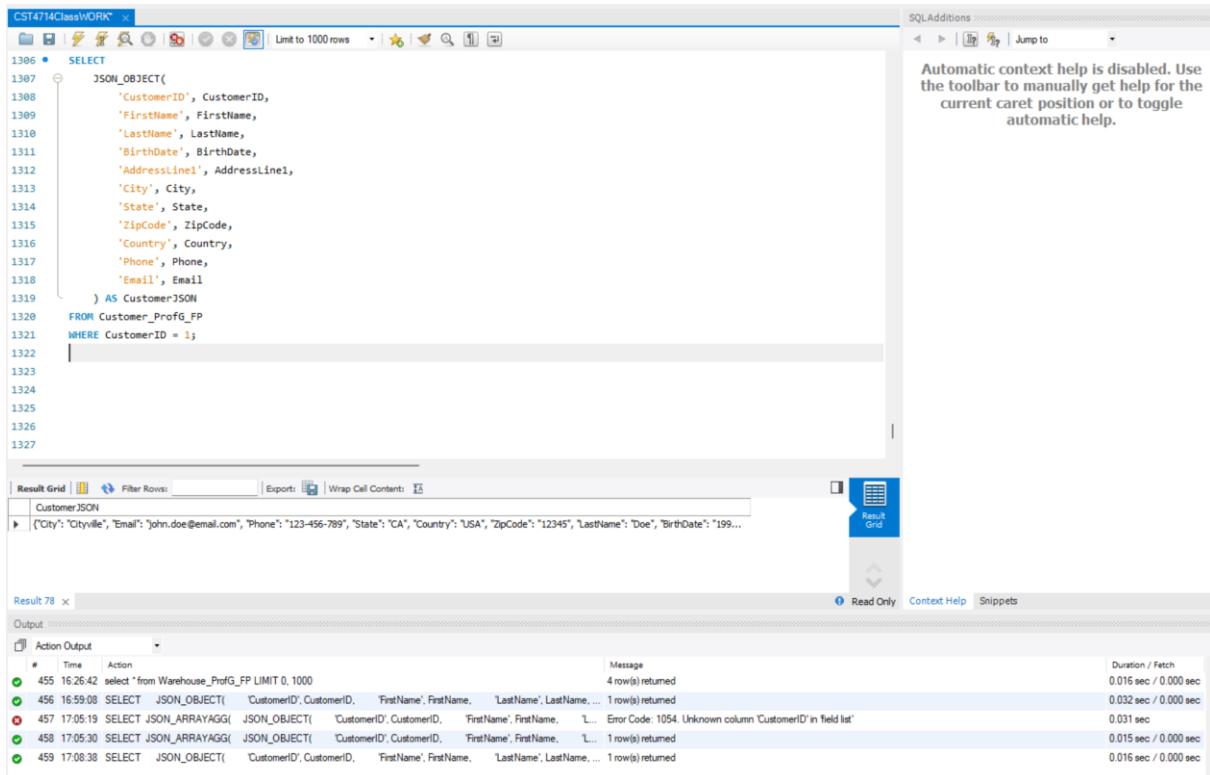
## ❖ JSON Payloads #2

**Customer Payload:** This payload provides information about a customer, including their ID, name, birthdate, contact details, and address.

### ➤ Query for JSON Payload #2:

```
SELECT
    JSON_OBJECT(
        'CustomerID', CustomerID,
        'FirstName', FirstName,
        'LastName', LastName,
        'BirthDate', BirthDate,
        'AddressLine1', AddressLine1,
        'City', City,
        'State', State,
        'ZipCode', ZipCode,
        'Country', Country,
        'Phone', Phone,
        'Email', Email
    ) AS CustomerJSON
FROM Customer_ProfG_FP
WHERE CustomerID = 1; -- Replace with the desired customer ID
```

➤ Output Result for JSON Payload #2:



The screenshot shows the Oracle SQL Developer interface. In the top-left pane, a code editor displays a SQL query:

```

1306 • SELECT
1307   JSON_OBJECT(
1308     'CustomerID', CustomerID,
1309     'FirstName', FirstName,
1310     'LastName', LastName,
1311     'BirthDate', BirthDate,
1312     'AddressLine1', AddressLine1,
1313     'City', City,
1314     'State', State,
1315     'ZipCode', ZipCode,
1316     'Country', Country,
1317     'Phone', Phone,
1318     'Email', Email
1319   ) AS CustomerJSON
1320   FROM Customer_ProfG_FP
1321   WHERE CustomerID = 1;
1322
1323
1324
1325
1326
1327

```

In the top-right pane, a message states: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."

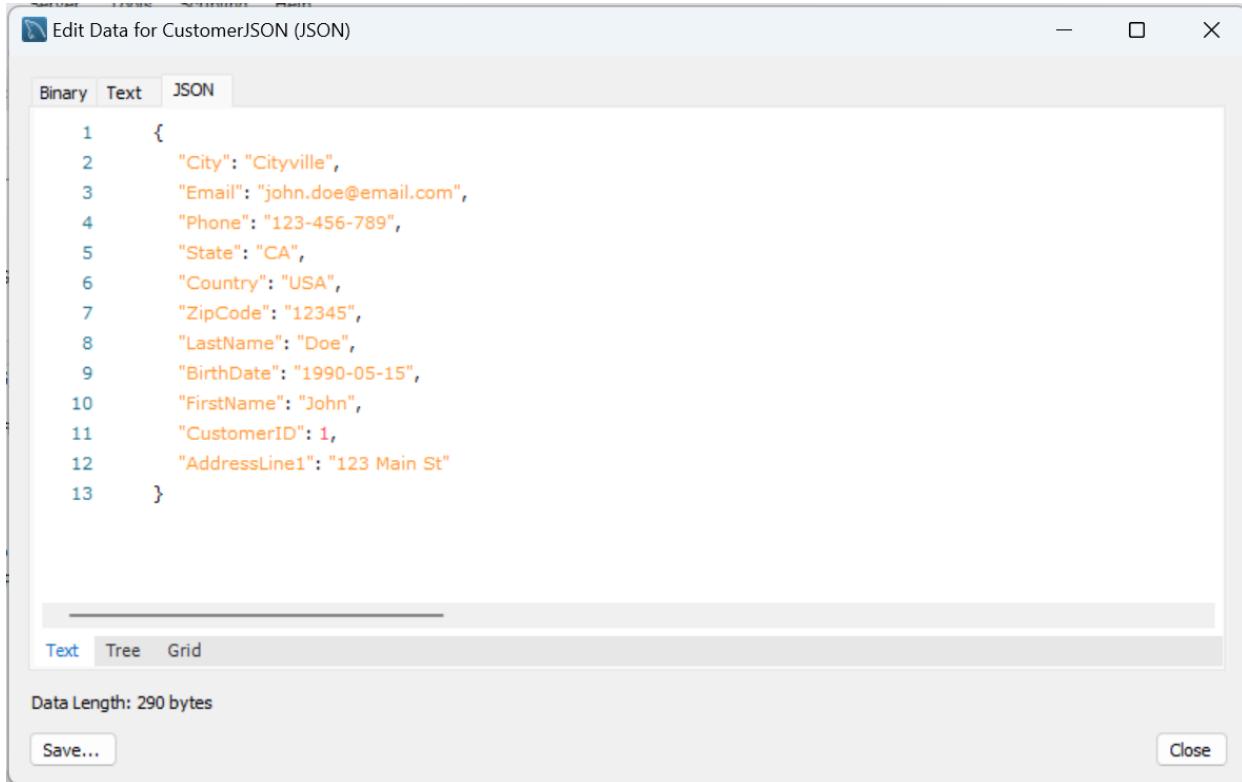
The bottom-left pane shows the result grid with one row of data:

CustomerJSON
{"City": "Cityville", "Email": "john.doe@email.com", "Phone": "123-456-789", "State": "CA", "Country": "USA", "ZipCode": "12345", "LastName": "Doe", "BirthDate": "1990-05-15", "FirstName": "John", "CustomerID": 1, "AddressLine1": "123 Main St"}

The bottom-right pane shows the history of actions:

Action	Time	Message	Duration / Fetch
select * from Warehouse_ProfG_FP	16:26:42	4 row(s) returned	0.016 sec / 0.000 sec
SELECT JSON_OBJECT( 'CustomerID',CustomerID, 'FirstName', FirstName, 'LastName', LastName, 'BirthDate', BirthDate, 'AddressLine1', AddressLine1, 'City', City, 'State', State, 'ZipCode', ZipCode, 'Country', Country, 'Phone', Phone, 'Email', Email ) AS CustomerJSON	16:59:08	1 row(s) returned	0.032 sec / 0.000 sec
SELECT JSON_ARRAYAGG( JSON_OBJECT( 'CustomerID',CustomerID, 'FirstName', FirstName, 'LastName', LastName, 'BirthDate', BirthDate, 'AddressLine1', AddressLine1, 'City', City, 'State', State, 'ZipCode', ZipCode, 'Country', Country, 'Phone', Phone, 'Email', Email ) ) AS CustomerJSON	17:05:19	Error Code: 1054. Unknown column 'CustomerID' in 'field list'	0.031 sec
SELECT JSON_OBJECT( 'CustomerID',CustomerID, 'FirstName', FirstName, 'LastName', LastName, 'BirthDate', BirthDate, 'AddressLine1', AddressLine1, 'City', City, 'State', State, 'ZipCode', ZipCode, 'Country', Country, 'Phone', Phone, 'Email', Email ) AS CustomerJSON	17:08:30	1 row(s) returned	0.015 sec / 0.000 sec
	17:08:38	1 row(s) returned	0.016 sec / 0.000 sec

➤ The output opens in viewer:



The screenshot shows the Oracle SQL Developer Data Editor window. The title bar says "Edit Data for CustomerJSON (JSON)". The main area has tabs: Binary, Text, and JSON. The JSON tab is selected and displays the following JSON object:

```

1   {
2     "City": "Cityville",
3     "Email": "john.doe@email.com",
4     "Phone": "123-456-789",
5     "State": "CA",
6     "Country": "USA",
7     "ZipCode": "12345",
8     "LastName": "Doe",
9     "BirthDate": "1990-05-15",
10    "FirstName": "John",
11    "CustomerID": 1,
12    "AddressLine1": "123 Main St"
13  }

```

Below the JSON object, there are buttons for Text, Tree, and Grid. The status bar at the bottom left shows "Data Length: 290 bytes". At the bottom right are Save... and Close buttons.

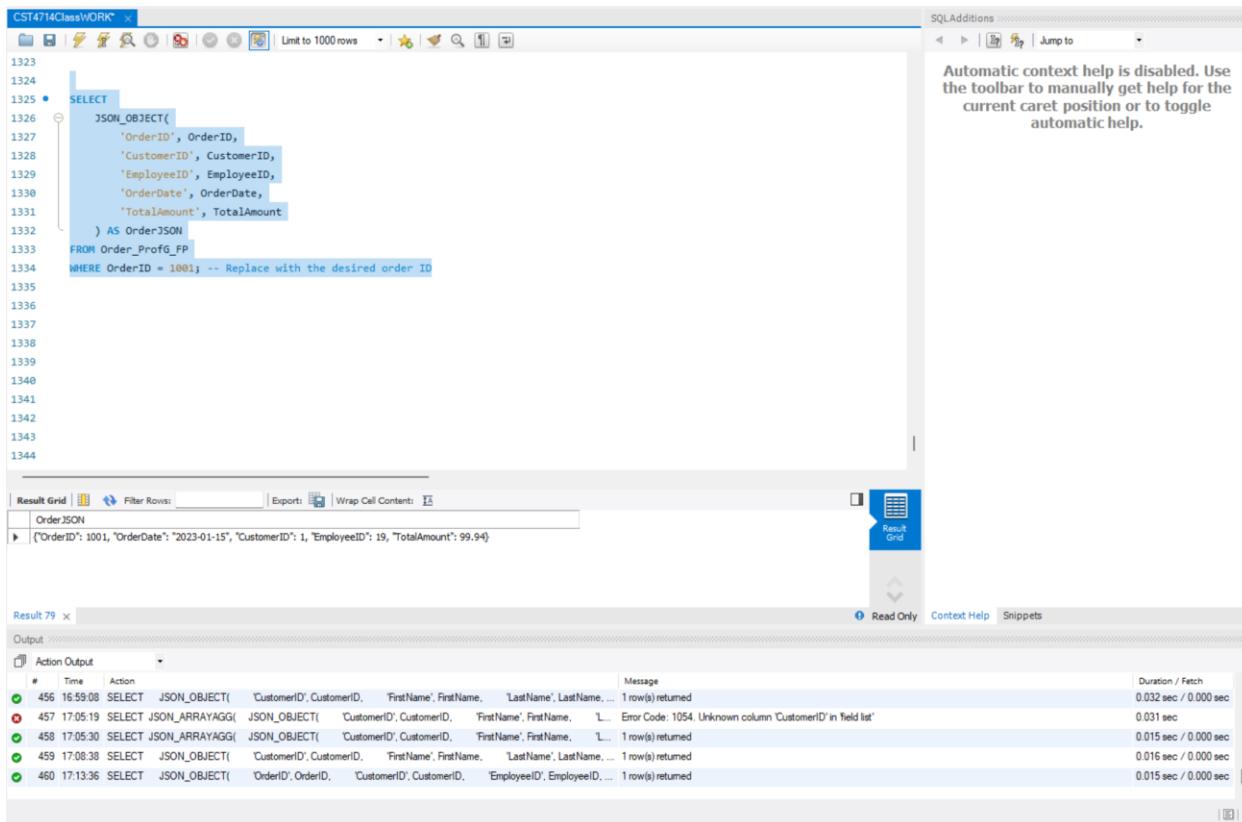
## ❖ JSON Payloads #3

**Order Payload:** This payload represents an order, including the order ID, customer ID, employee ID, order date, and total amount. It is useful for tracking sales transactions.

### ➤ Query for JSON Payload #3:

```
SELECT
    JSON_OBJECT(
        'OrderID', OrderID,
        'CustomerID', CustomerID,
        'EmployeeID', EmployeeID,
        'OrderDate', OrderDate,
        'TotalAmount', TotalAmount
    ) AS OrderJSON
FROM Order_ProfG_FP
WHERE OrderID = 1001; -- Replace with the desired order ID
```

### ➤ Output Result for JSON Payload #3:



The screenshot shows the SQL Server Management Studio interface. The top pane displays the T-SQL query for generating a JSON payload. The bottom pane shows the results grid with one row of data, and the status bar indicates 79 rows returned. The bottom right pane shows the execution history with five entries, all completed successfully.

Time	Action	Message	Duration / Fetch
456 16:59:08	SELECT JSON_OBJECT( 'CustomerID', CustomerID, 'FirstName', FirstName, 'LastName', LastName, ... ) AS OrderJSON FROM Order_ProfG_FP WHERE OrderID = 1001; -- Replace with the desired order ID	1 row(s) returned	0.032 sec / 0.000 sec
457 17:05:19	SELECT JSON_ARRAYAGG( JSON_OBJECT( 'CustomerID', CustomerID, 'FirstName', FirstName, 'L...', ... ) ) AS OrderJSON FROM Order_ProfG_FP	Error Code: 1054. Unknown column 'CustomerID' in field list	0.031 sec
458 17:06:30	SELECT JSON_ARRAYAGG( JSON_OBJECT( 'CustomerID', CustomerID, 'FirstName', FirstName, 'L...', ... ) ) AS OrderJSON FROM Order_ProfG_FP	1 row(s) returned	0.015 sec / 0.000 sec
459 17:08:38	SELECT JSON_OBJECT( 'CustomerID', CustomerID, 'FirstName', FirstName, 'LastName', LastName, ... ) AS OrderJSON FROM Order_ProfG_FP WHERE OrderID = 1001; -- Replace with the desired order ID	1 row(s) returned	0.016 sec / 0.000 sec
460 17:13:36	SELECT JSON_OBJECT( 'OrderID', OrderID, 'CustomerID', CustomerID, 'EmployeeID', EmployeeID, 'OrderDate', OrderDate, 'TotalAmount', TotalAmount ) AS OrderJSON FROM Order_ProfG_FP WHERE OrderID = 1001; -- Replace with the desired order ID	1 row(s) returned	0.015 sec / 0.000 sec

- The output opens in viewer:



The screenshot shows a Windows-style application window titled "Edit Data for OrderJSON (JSON)". The window has three tabs at the top: "Binary", "Text", and "JSON". The "Text" tab is selected, displaying the following JSON code:

```
1  {
2      "OrderID": 1001,
3      "OrderDate": "2023-01-15",
4      "CustomerID": 1,
5      "EmployeeID": 19,
6      "TotalAmount": 99.94
7 }
```

Below the code, there is a horizontal scroll bar. At the bottom of the window, there is a toolbar with three buttons: "Text", "Tree", and "Grid". The "Text" button is highlighted. Below the toolbar, the text "Data Length: 123 bytes" is displayed. At the bottom right, there are two buttons: "Save..." and "Close".

## Business Reports Queries & Summary

In this sub-section, will be Design & Implement BUSINESS REPORT QUERIES to be used by decision makers throughout the business providing them the DATA they need to make important BUSINESS DECISIONS.

### Business Report #1 – Decision to target Retail Customers by Birthday for Birthday Discount

- ❖ Report goals, objectives & decisions:

GUIDELINES	ANSWER
<b>Q1 – What is the Business Scenario &amp; Objectives?</b>	<ul style="list-style-type: none"><li>▪ A promotional campaign by the Marketing Team is targeting all customers who were born in the month of December, offering them a birthday discount to promote customer loyalty and retain the customers.</li></ul>
<b>Q2 – Target Persona/Decision Maker?</b>	<ul style="list-style-type: none"><li>▪ Marketing team.</li></ul>
<b>Q3 – What is the Decision to be made?</b>	<ul style="list-style-type: none"><li>▪ The Marketing team needs to decide which customer to email and mail the discount coupon to.</li><li>▪ This decision is based on retail customers who were born in a particular month.</li></ul>
<b>Q4 – What Data is required to make the Decision?</b>	<ul style="list-style-type: none"><li>▪ The data required to make decision includes Customer Name, Customer Email Address, Home Address, and which month of the birthday is important to target.</li></ul>
<b>Q5 – WHAT TABLES &amp; COLUMNS Contain the Data Identified in Q4 and what Query Components may be involved in creating the SELECT STATEMENT?</b>	<ul style="list-style-type: none"><li>▪ The following Table in the database schema was ANALYZED and identified to contain the required data in its columns:<ul style="list-style-type: none"><li>o Customer_ProfG_FP – FirstName, LastName, BirthDate, AddressLine1, AddressLine2, City, State, ZipCode, Country, and Email are found in this table.</li></ul></li><li>▪ Using a SELECT statement and EXTRACT method to get the data needed.</li></ul>

- ❖ Derived Query for Business Report #1:

```
SELECT FirstName, LastName, BirthDate, AddressLine1, AddressLine2, City, State, ZipCode,  
Country, Email  
FROM Customer_ProfG_FP  
WHERE EXTRACT(MONTH FROM BirthDate) = 12;
```

- ❖ Data that currently reside in the Tables being queried by Business Report #1:

```
SELECT FirstName, LastName, BirthDate, AddressLine1, AddressLine2, City, State, ZipCode,  
Country, Email  
FROM Customer_ProfG_FP;
```

Result Grid | Filter Rows:  Export:  Wrap Cell Content:

	FirstName	LastName	BirthDate	AddressLine1	AddressLine2	City	State	ZipCode	Country	Email
▶	John	Doe	1990-05-15	123 Main St	Apt 456	Cityville	CA	12345	USA	john.doe@email.com
	Jane	Smith	1985-08-22	456 Oak St	NULL	Townsville	NY	54321	USA	jane.smith@email.com
	Robert	Johnson	1992-03-10	789 Pine St	Suite 101	Villageton	TX	67890	USA	robert.johnson@email.com
	Emily	Davis	1988-11-28	101 Cedar St	NULL	Cityburg	FL	98765	USA	emily.davis@email.com
	Michael	Brown	1995-07-03	202 Elm St	Apt 303	Township	GA	34567	USA	michael.brown@email.com
	Olivia	White	1980-12-18	303 Maple St	NULL	Villageville	CA	23456	USA	olivia.white@email.com
	William	Lee	1987-09-05	404 Birch St	Suite 202	Townsville	NY	76543	USA	william.lee@email.com
	Sophia	Taylor	1993-04-12	505 Spruce St	NULL	Cityburg	FL	87654	USA	sophia.taylor@email.com
	James	Moore	1983-01-25	606 Oak St	Apt 404	Villageton	TX	78901	USA	james.moore@email.com
	Ava	Turner	1998-06-08	707 Pine St	NULL	Township	GA	67890	USA	ava.turner@email.com
	Ethan	Wilson	1986-02-14	808 Cedar St	NULL	Villageville	CA	45678	USA	ethan.wilson@email.com
	Isabella	Hall	1991-10-31	909 Elm St	NULL	Cityville	CA	56789	USA	isabella.hall@email.com
	Mason	Allen	1982-07-17	101 Cedar St	Apt 505	Cityburg	FL	34567	USA	mason.allen@email.com
	Emma	Garcia	1989-04-03	202 Elm St	NULL	Township	GA	45678	USA	emma.garcia@email.com
	Liam	Martinez	1994-12-20	303 Maple St	Suite 606	Villageville	CA	23456	USA	liam.martinez@email.com
	Olivia	Cooper	1981-08-07	404 Birch St	Apt 707	Townsville	NY	67890	USA	olivia.cooper@email.com
	Noah	Foster	1997-03-24	505 Spruce St	NULL	Cityburg	FL	78901	USA	noah.foster@email.com
	Ava	Richardson	1984-11-10	606 Oak St	Suite 808	Villageton	TX	89012	USA	ava.richardson@email.com
	Liam	Hughes	1986-06-27	707 Pine St	Apt 909	Township	GA	90123	USA	liam.hughes@email.com
	Mia	Patterson	1990-01-14	808 Cedar St	NULL	Cityville	CA	1234	USA	mia.patterson@email.com
	Elijah	Bryant	1995-10-02	909 Elm St	Suite 101	Villageton	TX	12345	USA	elijah.bryant@email.com
	Isabella	Reed	1987-05-19	101 Cedar St	Apt 303	Township	GA	34567	USA	isabella.reed@email.com
	Aiden	Carter	1980-02-05	202 Elm St	Suite 404	Cityburg	FL	56789	USA	aiden.carter@email.com
	Amelia	Howard	1992-09-22	303 Maple St	Apt 505	Villageville	CA	45678	USA	amelia.howard@email.com
	Lucas	Watson	1988-06-09	404 Birch St	Suite 606	Townsville	NY	67890	USA	lucas.watson@email.com
	Sophie	Mitchell	1994-01-26	505 Spruce St	Apt 707	Cityburg	FL	78901	USA	sophie.mitchell@email.com
	Landon	Gray	1981-10-13	606 Oak St	Suite 808	Villageton	TX	89012	USA	landon.gray@email.com
	Aria	Bell	1986-07-30	707 Pine St	NULL	Township	GA	90123	USA	aria.bell@email.com
	Lincoln	Diaz	1991-04-15	808 Cedar St	Apt 909	Cityville	CA	1234	USA	lincoln.diaz@email.com
	Zoey	Hill	1983-11-02	909 Elm St	Suite 101	Townsville	NY	12345	USA	zoey.hill@email.com

#### ❖ Results of execution of Business Report #1 Query:

Result Grid | Filter Rows:  Export:  Wrap Cell Content:

	FirstName	LastName	BirthDate	AddressLine1	AddressLine2	City	State	ZipCode	Country	Email
▶	Olivia	White	1980-12-18	303 Maple St	NULL	Villageville	CA	23456	USA	olivia.white@email.com
	Liam	Martinez	1994-12-20	303 Maple St	Suite 606	Villageville	CA	23456	USA	liam.martinez@email.com

## Business Report #2 – Decision to target Employees who are in the Customer Services Department to Reset Password

- ❖ Report goals, objectives & decisions:

GUIDELINES	ANSWER
<b>Q1 – What is the Business Scenario &amp; Objectives?</b>	<ul style="list-style-type: none"> <li>▪ This business scenario aims to target all employees who are in the Customer Services Department and have an Employee User Account. For security reasons, the IT team will set the passwords to expire every 6 months and inform the user to reset them.</li> </ul>
<b>Q2 – Target Persona/Decision Maker?</b>	<ul style="list-style-type: none"> <li>▪ IT team.</li> </ul>
<b>Q3 – What is the Decision to be made?</b>	<ul style="list-style-type: none"> <li>▪ The IT team needs to decide which employees to email the information.</li> <li>▪ This decision is based on employees who are in the Customer Services Department and have an Employee User Account.</li> </ul>
<b>Q4 – What Data is required to make the Decision?</b>	<ul style="list-style-type: none"> <li>▪ The data required to make decision includes Employee Name, Employee Email Address, Position, Department, Employee Username, and Password.</li> </ul>
<b>Q5 – WHAT TABLES &amp; COLUMNS Contain the Data Identified in Q4 and what Query Components may be involved in creating the SELECT STATEMENT?</b>	<ul style="list-style-type: none"> <li>▪ The following Tables in the database schema were ANALYZED and identified to contain the required data in their columns: <ul style="list-style-type: none"> <li>o Employee_ProfG_FP – FirstName, LastName, and Email are found in this table.</li> <li>o Department_ProfG_FP – DepartmentName is found in this table.</li> <li>o EmployeeLogin_ProfG_FP – Username, and Password are found in this table.</li> </ul> </li> <li>▪ Using a SELECT statement that JOINS and queries these three tables Employee_ProfG_FP, Department_ProfG_FP &amp; EmployeeLogin_ProfG_FP to get the data needed.</li> </ul>

- ❖ Derived Query for Business Report #2:

```

SELECT E.EmployeeID, E.FirstName, E.LastName, E.Email, D.DepartmentName, EL.Username,
EL.Password
FROM Employee_ProfG_FP AS E
JOIN Department_ProfG_FP AS D ON E.DepartmentID = D.DepartmentID
JOIN EmployeeLogin_ProfG_FP AS EL ON E.LoginID = EL.LoginID
WHERE D.DepartmentName = 'Customer Services';

```

- ❖ Data that currently reside in the Tables being queried by Business Report #2:

**SELECT \* FROM Employee\_ProfG\_FP;**

Result Grid   Filter Rows: <input type="button" value="Filter"/> Edit: <input type="button" value="Edit"/> <input type="button" value="Insert"/> <input type="button" value="Delete"/> Export/Import: <input type="button" value="Export"/> <input type="button" value="Import"/> Wrap Cell Content: <input type="checkbox"/>										
EmployeeID	FirstName	LastName	AddressLine1	AddressLine2	City	State	ZipCode	ContactNumber	Email	Position
1	Elka	Ikins	9712 Kenwood Alley	18th Floor	Carson City	Nevada	89714	654-269-4247	elkins0@webs.com	Sales Support Special
2	Tod	Neve	031 Kingsford Center	Apt 375	San Antonio	Texas	78210	801-654-4791	tneve1@nsw.gov.au	Customer Service Rep
3	Carmelia	Luetchford	10 Jay Terrace	Room 141	Tampa	Florida	33673	739-116-2573	cluetchford2@joomla.org	Customer Service Rep
4	Manny	Masters	8 Scott Street	Room 368	Sacramento	California	94250	263-893-0479	mmasters3@mdb.com	Customer Service Rep
5	Camey	Clemente	9536 Deba Avenue	2nd Floor	Peoria	Illinois	61614	640-856-3927	dclemente4@myspace.com	Marketing Manager
6	Saraann	Skoggins	09 Sunbrook Street	Apt 1769	Shawnee Mission	Kansas	66286	538-987-9228	sskoggins5@whitehouse.gov	Marketing Coordinator
7	Winifred	Whitechurch	725 Summer Ridge Trail	Room 1817	Birmingham	Alabama	35279	737-296-7174	wwhitechurch6@ft.com	Senior Sales
8	Englebert	Slocombe	749 Graedel Park	PO Box 82857	Austin	Texas	78726	258-889-5090	eslocombe7@fastcompany.com	Inventory Manager
9	Vladimir	Francescoccio	923 Main Road	Room 1867	Omaha	Nebraska	68134	190-658-1761	vfrancescoccio8@plala.or.jp	Merchandising Manager
10	Glenine	Jean	592 Jackson Pass	PO Box 17670	Bakersfield	California	93381	803-740-5390	gjeal9@alibaba.com	Stock Control Specialist
11	Hi	Pavlenko	6727 Heffernan Street	Suite 33	Los Angeles	California	90055	533-798-5900	hpavlenko@e-recht24.de	HR Manager
12	Gifford	Gerge	02 Hoffman Pass	3rd Floor	Anchorage	Alaska	99599	217-790-3772	ggergeb@123-reg.co.uk	HR Manager
13	Rasla	Arnould	712 Cardinal Avenue	PO Box 19201	Houston	Texas	77288	732-342-6313	rarnouldc@digg.com	Training Coordinator
14	Thedrick	Foulser	545 Swallow Terrace	Suite 5	Honolulu	Hawaii	96850	456-737-0675	tfoulserd@opensource.org	Recruiter
15	Ryun	Antczak	9318 Summerview Trail	Suite 63	Portsmouth	New Hampshire	3804	865-458-9521	rantczake@networksolutions.c...	Senior Sales Associate
16	Joshua	Hyder	87 Elgar Circle	Room 1263	Washington	District of C...	20566	351-472-3699	jhyderf@abc.net.au	Recruiter
17	Juline	Goodings	59 Hanson Place	Apt 672	Los Angeles	California	90060	834-299-9698	jgoodingsg@wix.com	Recruiter
18	My	Robilar	6057 Pleasure Pass	Apt 671	El Paso	Texas	79977	514-999-8294	mrobilarth@spiegel.de	Senior Sales

Result Grid   Filter Rows: <input type="button" value="Filter"/> Edit: <input type="button" value="Edit"/> <input type="button" value="Insert"/> <input type="button" value="Delete"/> Export/Import: <input type="button" value="Export"/> <input type="button" value="Import"/> Wrap Cell Content: <input type="checkbox"/>										
State	ZipCode	ContactNumber	Email	Position	Salary	BirthDate	HireDate	DepartmentID	TrainingID	LoginID
Nevada	89714	654-269-4247	elkins0@webs.com	Sales Support Specialist	45672.70	1990-06-23	2002-11-08	2	1	1
Texas	78210	801-654-4791	tneve1@nsw.gov.au	Customer Service Representative	65650.49	1992-11-03	2015-09-19	4	1	2
Florida	33673	739-116-2573	cluetchford2@joomla.org	Customer Service Representative	51082.07	2002-05-22	2017-03-27	4	5	3
California	94250	263-893-0479	mmasters3@mdb.com	Customer Service Representative	52626.74	1999-01-05	2011-05-13	4	5	4
Illinois	61614	640-856-3927	dclemente4@myspace.com	Marketing Manager	75999.20	1994-06-03	2011-09-25	5	6	5
Kansas	66286	538-987-9228	sskoggins5@whitehouse.gov	Marketing Coordinator	69351.45	1999-12-28	2012-03-15	5	6	6
Alabama	35279	737-296-7174	wwhitechurch6@ft.com	Senior Sales	52555.82	2002-04-11	2007-09-26	2	6	7
Texas	78726	258-889-5090	eslocombe7@fastcompany.com	Inventory Manager	78055.82	1996-07-15	2022-11-09	3	3	8
Nebraska	68134	190-658-1761	vfrancescoccio8@plala.or.jp	Merchandising Manager	73804.93	2000-12-19	2008-03-03	3	2	9
California	93381	803-740-5390	gjeal9@alibaba.com	Stock Control Specialist	59921.50	2001-08-11	2006-01-18	3	2	10
California	90055	533-798-5900	hpavlenko@e-recht24.de	HR Manager	69400.64	1992-04-19	2002-02-01	1	6	11
Alaska	99599	217-790-3772	ggergeb@123-reg.co.uk	HR Manager	67655.34	1992-02-23	2014-08-03	1	6	12
Texas	77288	732-342-6313	rarnouldc@digg.com	Training Coordinator	37842.86	2001-03-25	2014-03-15	6	6	13
Hawaii	96850	456-737-0675	tfoulserd@opensource.org	Recruiter	33291.88	2001-05-02	2012-12-21	1	6	14
New Hampshire	3804	865-458-9521	rantczake@networksolutions.c...	Senior Sales Associate	56971.26	2001-03-30	2004-07-19	2	2	15
District of Columbia	20566	351-472-3699	jhyderf@abc.net.au	Recruiter	51808.27	1997-11-06	2009-11-04	1	6	16
California	90060	834-299-9698	jgoodingsg@wix.com	Recruiter	53808.67	1999-12-04	2004-11-07	1	6	17
Texas	79977	514-999-8294	mrobilarth@spiegel.de	Senior Sales	51177.13	1996-12-24	2020-02-01	2	2	18

**SELECT \* FROM Department\_ProfG\_FP;**

DepartmentID	DepartmentName
1	Human Resources
2	Sales
3	Product Management
4	Customer Services
5	Marketing
6	Training
*	NULL

```
SELECT * FROM EmployeeLogin_ProfG_FP;
```

	LoginID	Username	Password	LastLoginDateTime
▶	1	emp_user_1	pass123	2023-11-05 08:15:00
	2	emp_user_2	secret456	2023-11-05 09:22:00
	3	emp_user_3	employee789	2023-11-05 10:45:00
	4	emp_user_4	p@ssWOrD!	2023-11-05 11:30:00
	5	emp_user_5	login_pass	2023-11-05 12:40:00
	6	emp_user_6	user_pass123	2023-11-05 14:05:00
	7	emp_user_7	secure_pass	2023-11-24 15:18:00
	8	emp_user_8	my_password	2023-11-24 16:29:00
	9	emp_user_9	strong_pass123	2023-11-24 17:45:00
	10	emp_user_10	simple123	2023-11-24 18:55:00
	11	emp_user_11	easy_pass789	2023-11-24 19:58:00
	12	emp_user_12	quick_login	2023-11-24 20:45:00
	13	emp_user_13	fast_pass456	2023-11-24 21:30:00
	14	emp_user_14	pwd_123	2023-11-24 22:15:00
	15	emp_user_15	access456	2023-11-24 23:10:00
	16	emp_user_16	p@ssword789!	2023-11-24 00:25:00
	17	emp_user_17	secret_login	2023-11-24 01:35:00
	18	emp_user_18	secure_pass123	2023-12-01 03:45:00
	19	emp user 19	easy pass123	2023-12-01 02:45:00

❖ Results of execution of Business Report #2 Query:

Result Grid							
	EmployeeID	FirstName	LastName	Email	DepartmentName	Username	Password
▶	2	Tod	Neve	tneve1@nsw.gov.au	Customer Services	emp_user_2	secret456
	3	Carmelia	Luetchford	cluetchford2@joomla.org	Customer Services	emp_user_3	employee789
	4	Manny	Masters	mmasters3@imdb.com	Customer Services	emp_user_4	p@ssWOrD!

## Business Report #3 – Decision to target all Employees by Birthday Month For Birthday Gift Preparation

- ❖ Report goals, objectives & decisions:

GUIDELINES	ANSWER
<b>Q1 – What is the Business Scenario &amp; Objectives?</b>	<ul style="list-style-type: none"> <li>▪ The Human Resource Team is targeting all employees who were born in the month of December, offering them a birthday gift and coupon to promote employee loyalty.</li> </ul>
<b>Q2 – Target Persona/Decision Maker?</b>	<ul style="list-style-type: none"> <li>▪ HR team. (Company Policy)</li> </ul>
<b>Q3 – What is the Decision to be made?</b>	<ul style="list-style-type: none"> <li>▪ The HR team needs to decide how many birthday gifts and coupons are needed to prepare.</li> <li>▪ This decision is based on employees who were born in the upcoming month.</li> </ul>
<b>Q4 – What Data is required to make the Decision?</b>	<ul style="list-style-type: none"> <li>▪ The data required to make a decision is a number of employees born in this particular month(December).</li> </ul>
<b>Q5 – WHAT TABLES &amp; COLUMNS Contain the Data Identified in Q4 and what Query Components may be involved in creating the SELECT STATEMENT?</b>	<ul style="list-style-type: none"> <li>▪ The following Table in the database schema was ANALYZED and identified to contain the required data in its columns: <ul style="list-style-type: none"> <li>o Employee_ProfG_FP – EmployeeID and BirthDate are found in this table.</li> </ul> </li> <li>▪ Using a SELECT and COUNT statement and EXTRACT method to get the data needed.</li> </ul>

- ❖ Derived Query for Business Report #3:

```

SELECT COUNT(EmployeeID) As DecemberBornNumber
FROM Employee_ProfG_FP
WHERE EXTRACT(MONTH FROM BirthDate) = 12;
```

- ❖ Data that currently reside in the Tables being queried by Business Report #3:

```

SELECT * FROM Employee_ProfG_FP;
```

Result Grid | Filter Rows:  Edit: Export/Import: Wrap Cell Content:

	EmployeeID	FirstName	LastName	AddressLine1	AddressLine2	City	State	ZipCode	ContactNumber	Email	Position
▶	1	Elka	Ikins	9712 Kenwood Alley	18th Floor	Carson City	Nevada	89714	654-269-4247	elkins0@webs.com	Sales Support Specialist
	2	Tod	Neve	031 Kingsford Center	Apt 375	San Antonio	Texas	78210	801-654-4791	tneve1@nsw.gov.au	Customer Service Repre
	3	Carmella	Luetchford	10 Jay Terrace	Room 141	Tampa	Florida	33673	739-116-2573	cluetchford2@joomla.org	Customer Service Repre
	4	Manny	Masters	8 Scott Street	Room 368	Sacramento	California	94250	263-893-0479	mmasters3@imdb.com	Customer Service Repre
	5	Camey	Clemente	9536 Debs Avenue	2nd Floor	Peoria	Illinois	61614	640-856-3927	dclemente4@myspace.com	Marketing Manager
	6	Saraann	Skoggins	09 Sunbrook Street	Apt 1769	Shawnee Mission	Kansas	66286	538-987-9228	sskoggins5@whitehouse.gov	Marketing Coordinator
	7	Winifred	Whitechurch	725 Summer Ridge Trail	Room 1817	Birmingham	Alabama	35279	737-296-7174	wwwhitechurch6@ft.com	Senior Sales
	8	Englebert	Slocombe	749 Graedel Park	PO Box 82857	Austin	Texas	78726	258-889-5090	eslocombe7@fastcompany.com	Inventory Manager
	9	Vladimir	Francescoccio	923 Main Road	Room 1867	Omaha	Nebraska	68134	190-658-1761	vfrancescoccio8@plala.or.jp	Merchandising Manager
	10	Glenive	Jean	592 Jackson Pass	Apt 17670	Bakersfield	California	93381	803-740-5390	jeal9@alibaba.com	Stock Control Specialist
	11	Hi	Pavlenko	6727 Heffernan Street	Suite 33	Los Angeles	California	90055	533-798-5900	hpavlenko@e-recht24.de	HR Manager
	12	Gifford	Gerge	02 Hoffman Pass	3rd Floor	Anchorage	Alaska	99599	217-790-3772	ggergeb@123-reg.co.uk	HR Manager
	13	Rasla	Arnold	712 Cardinal Avenue	PO Box 19201	Houston	Texas	77288	732-342-6313	rarnouldc@diggit.com	Training Coordinator
	14	The dredick	Foulser	545 Swallow Terrace	Suite 5	Honolulu	Hawaii	96850	456-737-0675	tfoulserd@opensource.org	Recruiter
	15	Ryun	Antczak	9318 Summerview Trail	Suite 63	Portsmouth	New Hamps...	3804	865-458-9521	rantczak@networksolutions.c...	Senior Sales Associate
	16	Joshua	Hyder	87 Elgar Circle	Room 1263	Washington	District of C...	20566	351-472-3699	jhyderf@abc.net.au	Recruiter
	17	Juline	Goodings	59 Hanson Place	Apt 672	Los Angeles	California	90060	834-299-9698	jgoodingsg@wix.com	Recruiter
	18	My	Roblart	6057 Pleasur Pass	Apt 671	El Paso	Texas	79977	514-999-8294	mrobllarth@spiegel.de	Senior Sales
	19	Berkley	Peto	48443 Spaight Road	15th Floor	Pasadena	California	91125	371-970-6449	bpetoi@huffingtonpost.com	Senior Sales
	20	Carita	Stenyng	687 Hudson Plaza	Room 1404	Albany	New York	12255	799-394-0438	cstenyngj@blogtalkradio.com	Sales Manager
	21	Victor	Borrie	11611 Independence ...	Suite 12	Evansville	Indiana	47705	774-942-3340	vborrie@reference.com	Sales Manager
	22	Corbin	Brafferton	1 Jay Way	3rd Floor	Tucson	Arizona	85754	415-933-0260	cbrafferton1@ehow.com	Sales Support Specialist
	23	Galina	Jovicic	8496 Dakota Center	Suite 17	Minneapolis	Minnesota	55480	319-344-8484	gjovicic@surveymonkey.com	Sales Support Specialist
	24	Tandie	Capp	2221 Sheridan Drive	Suite 45	South Bend	Indiana	46614	927-247-6331	tcappn@yahoo.com	Sales Support Specialist
	25	Charita	Ansell	6186 Surrey Way	Apt 1993	Anaheim	California	92812	259-451-3413	cansello@wix.com	Sales Support Specialist
	26	Rory	Dymtent	336 Elkia Park	5th Floor	San Diego	California	92191	817-460-1089	rdymtentp@blogtalkradio.com	Sales Support Specialist
	27	Jermaine	Brownbridge	4862 Anderson Point	Room 723	Long Beach	California	90810	945-260-7672	jbrownbridgeq@blogs.com	Sales Support Specialist
	28	Luis	Kane	9284 Westridge Junction	Suite 11	Topeka	Kansas	66699	397-227-9441	lkane@bbb.org	Senior Sales
	29	Val	Driffe	84 Knutson Crossing	Room 784	Englewood	Colorado	80150	649-335-2040	vdriffes@slideshare.net	Senior Sales
	30	Barton	Giorio	3 Valley Edge Street	Room 82	Saint Cloud	Minnesota	56398	605-167-1993	bgioriot@biglobe.ne.jp	Recruiting Manager
•	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Result Grid | Filter Rows:  Edit: Export/Import: Wrap Cell Content:

	State	ZipCode	ContactNumber	Email	Position	Salary	BirthDate	HireDate	DepartmentID	TrainingID	LoginID	
▶	City	Nevada	89714	654-269-4247	elkins0@webs.com	Sales Support Specialist	45672.70	1990-06-23	2011-11-08	2	1	
tonio	Texas	78210	801-654-4791	tneve1@nsw.gov.au	Customer Service Representative	65650.49	1992-11-03	2015-09-19	4	1	2	
	Florida	33673	739-116-2573	cluetchford2@joomla.org	Customer Service Representative	51082.07	2002-05-22	2017-03-27	4	5	3	
	ento	California	94250	263-893-0479	nmasters3@imdb.com	Customer Service Representative	52626.74	1999-01-05	2011-05-13	4	5	4
	Illinois	61614	640-856-3927	dclemente4@myspace.com	Marketing Manager	75999.20	1994-06-03	2011-09-25	5	6	5	
	ee Mission	Kansas	66286	538-987-9228	sskoggins5@whitehouse.gov	Marketing Coordinator	69351.45	1999-12-28	2012-03-15	5	6	6
	ham	Alabama	35279	737-296-7174	wwwhitechurch6@ft.com	Senior Sales	52555.82	2002-04-11	2007-09-26	2	6	7
	Texas	78726	258-889-5090	eslocombe7@fastcompany.com	Inventory Manager	78055.82	1996-07-15	2022-11-09	3	3	8	
	Nebraska	68134	190-658-1761	vfrancescoccio8@plala.or.jp	Merchandising Manager	73804.93	2000-12-19	2008-03-03	3	2	9	
	field	California	93381	803-740-5390	gjeal9@alibaba.com	Stock Control Specialist	59921.50	2001-08-11	2006-01-18	3	2	10
	geles	California	90055	533-798-5900	hpavlenko@e-recht24.de	HR Manager	69400.64	1992-04-19	2002-02-01	1	6	11
	age	Alaska	99599	217-790-3772	ggergeb@123-reg.co.uk	HR Manager	67655.34	1992-02-23	2014-08-03	1	6	12
	n	Texas	77288	732-342-6313	rarnouldc@diggit.com	Training Coordinator	37842.86	2001-03-25	2014-03-15	6	6	13
	lu	Hawaii	96850	456-737-0675	tfaulserd@opensource.org	Recruiter	33291.88	2001-05-02	2012-12-21	1	6	14
	outh	New Hamps...	3804	865-458-9521	rantczak@networksolutions.c...	Senior Sales Associate	56971.26	2001-03-30	2004-07-19	2	2	15
	ington	District of C...	20566	351-472-3699	jhyderf@abc.net.au	Recruiter	51808.27	1997-11-06	2009-11-04	1	6	16
	geles	California	90050	834-299-9698	jgoodingsg@wix.com	Recruiter	53808.67	1999-12-04	2004-11-07	1	6	17
	Texas	79977	514-999-8294	mrobllarth@spiegel.de	Senior Sales	51177.13	1996-12-24	2020-02-01	2	2	18	
	na	California	91125	371-970-6449	bpetoi@huffingtonpost.com	Senior Sales	49552.06	1993-07-09	2005-11-18	2	6	19
	New York	12255	799-394-0438	cstenyngj@blogtalkradio.com	Sales Manager	46847.34	1993-08-05	2015-05-12	2	6	20	
	ille	Indiana	47705	774-942-3340	vborrie@reference.com	Sales Manager	46273.28	1997-03-27	2022-11-12	2	3	21
	polis	Arizona	85754	415-933-0260	cbrafferton1@ehow.com	Sales Support Specialist	46273.28	1994-06-24	2003-06-29	2	2	22
	End	Minnesota	55480	319-344-8484	gjovicic@surveymonkey.com	Sales Support Specialist	46273.28	1991-07-06	2003-12-09	2	4	23
	m	Indiana	46614	927-247-6331	tcappn@yahoo.com	Sales Support Specialist	46273.28	2001-10-20	2016-10-14	2	2	24
	go	California	92812	259-451-3413	cansello@wix.com	Sales Support Specialist	37398.69	1991-08-04	2002-11-27	2	4	25
	each	California	92191	817-460-1089	rdymtentp@blogtalkradio.com	Sales Support Specialist	39398.69	1992-09-07	2021-12-05	2	1	26
	Kansas	90810	945-260-7672	jbrownbridgeq@blogs.com	Sales Support Specialist	46273.28	2000-12-03	2006-02-27	2	4	27	
	ood	Colorado	80150	649-335-2040	vdriffes@slideshare.net	Senior Sales	53545.82	1990-04-05	2013-06-22	2	6	29
	loud	Minnesota	56398	605-167-1993	bgioriot@biglobe.ne.jp	Recruiting Manager	60934.80	2001-11-25	2014-08-29	1	6	30
•	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	

### ❖ Results of execution of Business Report #3 Query:

Result Grid | Filter Rows:  Edit: Export/Import: Wrap Cell Content:

DecemberBornNumber	
▶	5

## Business Report #4 – Decision to Target Number of Employees in Each Department For Human Resources Reallocating

- ❖ Report goals, objectives & decisions:

GUIDELINES	ANSWER
<b>Q1 – What is the Business Scenario &amp; Objectives?</b>	<ul style="list-style-type: none"> <li>▪ The Human Resource Department is assessing the employee count in each department and reallocating human resources to support a promotional campaign in the marketing department.</li> </ul>
<b>Q2 – Target Persona/Decision Maker?</b>	<ul style="list-style-type: none"> <li>▪ HR Manager.</li> </ul>
<b>Q3 – What is the Decision to be made?</b>	<ul style="list-style-type: none"> <li>▪ The HR Manager needs to decide which department to transfer people to the sales department.</li> <li>▪ This decision is based on number of employees in each department.</li> </ul>
<b>Q4 – What Data is required to make the Decision?</b>	<ul style="list-style-type: none"> <li>▪ The data required to make a decision is the number of employees in each department.</li> </ul>
<b>Q5 – WHAT TABLES &amp; COLUMNS Contain the Data Identified in Q4 and what Query Components may be involved in creating the SELECT STATEMENT?</b>	<ul style="list-style-type: none"> <li>▪ The following Table in the database schema was ANALYZED and identified to contain the required data in its columns: <ul style="list-style-type: none"> <li>o Employee_ProfG_FP – EmployeeID is found in this table.</li> <li>o Department_ProfG_FP – DepartmentName is found in this table.</li> </ul> </li> <li>▪ Using a SELECT, COUNT, JOIN, and GROUP BY statement to get the data needed.</li> </ul>

- ❖ Derived Query for Business Report #4:

```

SELECT COUNT(EmployeeID) AS NumberOfEmployee, DepartmentName
FROM Employee_ProfG_FP AS E
INNER JOIN Department_ProfG_FP AS D
ON E.DepartmentID = D.DepartmentID
GROUP BY DepartmentName;

```

- ❖ Data that currently reside in the Tables being queried by Business Report #4:

```

SELECT * FROM Employee_ProfG_FP;

```

Result Grid											
	EmployeeID	FirstName	LastName	AddressLine1	AddressLine2	City	State	ZipCode	ContactNumber	Email	Position
▶	1	Elka	Ikins	9712 Kenwood Alley	18th Floor	Carson City	Nevada	89714	654-269-4247	elkins0@webs.com	Sales Support Specialist
	2	Tod	Neve	031 Kingsford Center	Apt 375	San Antonio	Texas	78210	801-654-4791	tneve1@nsw.gov.au	Customer Service Repre
	3	Carmella	Luetchford	10 Jay Terrace	Room 141	Tampa	Florida	33673	739-116-2573	duetcford2@joomla.org	Customer Service Repre
	4	Manny	Masters	8 Scott Street	Room 368	Sacramento	California	94250	263-893-0479	mmasters3@imdb.com	Customer Service Repre
	5	Camey	Clemente	9536 Debs Avenue	2nd Floor	Peoria	Illinois	61614	640-856-3927	dclemente4@myspace.com	Marketing Manager
	6	Saraann	Skoggins	09 Sunbrook Street	Apt 1769	Shawnee Mission	Kansas	66286	538-987-9228	sskoggins5@whitehouse.gov	Marketing Coordinator
	7	Winifred	Whitechurch	725 Summer Ridge Trail	Room 1817	Birmingham	Alabama	35279	737-296-7174	wwhitechurch6@ft.com	Senior Sales
	8	Englebert	Slocombe	749 Graedel Park	PO Box 82857	Austin	Texas	78726	258-889-5090	eslocombe7@fastcompany.com	Inventory Manager
	9	Vladimir	Francescoccio	923 Main Road	Room 1867	Omaha	Nebraska	68134	190-658-1761	vfrancescoccio8@plala.or.jp	Merchandising Manager
	10	Glenine	Jeal	592 Jackson Pass	Room 17670	Bakersfield	California	93381	803-740-5390	jeal9@alibaba.com	Stock Control Specialist
	11	Hi	Pavlenko	6727 Heffernan Street	Suite 33	Los Angeles	California	90055	533-798-5900	hpavlenko@e-recht24.de	HR Manager
	12	Gifford	Gerge	02 Hoffman Pass	3rd Floor	Anchorage	Alaska	99599	217-790-3772	ggergeb@123-reg.co.uk	HR Manager
	13	Rasla	Arnould	712 Cardinal Avenue	PO Box 19201	Houston	Texas	77288	732-342-6313	rarnouldc@digg.com	Training Coordinator
	14	Thedrick	Foulser	545 Swallow Terrace	Suite 5	Honolulu	Hawaii	96850	456-737-0675	tfoulserd@opensource.org	Recruiter
	15	Ryun	Antczak	9318 Summerview Trail	Suite 63	Portsmouth	New Hamps...	3804	865-458-9521	rantczake@networksolutions.c...	Senior Sales Associate
	16	Joshua	Hyder	87 Elgar Circle	Room 1263	Washington	District of C...	20566	351-472-3699	jhyderf@abc.net.au	Recruiter
	17	Juline	Goodings	59 Hanson Place	Apt 672	Los Angeles	California	90060	834-299-9698	jgoodingsg@wix.com	Recruiter
	18	My	Roblart	6057 Pleasur Pass	Apt 671	El Paso	Texas	79977	514-999-8294	mrobllarth@spiegel.de	Senior Sales
	19	Berkley	Peto	48443 Spaight Road	15th Floor	Pasadena	California	91125	371-970-6449	bpeto1@huffingtonpost.com	Senior Sales
	20	Carita	Stenyng	687 Hudson Plaza	Room 1404	Albany	New York	12255	799-394-0438	cstenyngj@blogtalkradio.com	Sales Manager
	21	Victor	Borrie	11611 Independence ...	Suite 12	Evansville	Indiana	47705	774-942-3340	vborriek@reference.com	Sales Manager
	22	Corbin	Brafferton	1 Jay Way	3rd Floor	Tucson	Arizona	85754	415-933-0260	cbrafferton1@ehow.com	Sales Support Specialist
	23	Galina	Jovicic	8496 Dakota Center	Suite 17	Minneapolis	Minnesota	55480	319-344-8484	gjovicic@surveymonkey.com	Sales Support Specialist
	24	Tandie	Capp	2221 Sheridan Drive	Suite 45	South Bend	Indiana	46614	927-247-6331	tcappn@yahoo.com	Sales Support Specialist
	25	Charita	Ansell	6186 Surrey Way	Apt 1993	Anaheim	California	92812	259-451-3413	cansello@wix.com	Sales Support Specialist
	26	Rory	Dymtent	336 Elkia Park	5th Floor	San Diego	California	92191	817-460-1089	rdymtentp@blogtalkradio.com	Sales Support Specialist
	27	Jermaine	Brownbridge	4862 Anderson Point	Room 723	Long Beach	California	90810	945-260-7672	jbrownbridgeq@blogs.com	Sales Support Specialist
	28	Luis	Kane	9284 Westridge Junction	Suite 11	Topeka	Kansas	66699	397-227-9441	lkane@bbb.org	Senior Sales
	29	Val	Driffe	84 Knutson Crossing	Room 784	Englewood	Colorado	80150	649-335-2040	vdriffes@slideshare.net	Senior Sales
	30	Barton	Giorio	3 Valley Edge Street	Room 82	Saint Cloud	Minnesota	56398	605-167-1993	bgioriot@biglobe.ne.jp	Recruiting Manager
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Result Grid												
	State	ZipCode	ContactNumber	Email	Position	Salary	BirthDate	HireDate	DepartmentID	TrainingID	LoginID	
▶	City	Nevada	89714	654-269-4247	elkins0@webs.com	Sales Support Specialist	45672.70	1990-06-23	2011-11-08	2	1	
	tonio	78210	801-654-4791	tneve1@nsw.gov.au	Customer Service Representative	65650.49	1992-11-03	2015-09-19	4	1	2	
	Florida	33673	739-116-2573	duetcford2@joomla.org	Customer Service Representative	51082.07	2002-05-22	2017-03-27	4	5	3	
	ento	California	94250	263-893-0479	mmasters3@imdb.com	Customer Service Representative	52626.74	1999-01-05	2011-05-13	4	5	4
	Illinois	61614	640-856-3927	dclemente4@myspace.com	Marketing Manager	75999.20	1994-06-03	2011-09-25	5	6	5	
	ee Mission	Kansas	66286	538-987-9228	sskoggins5@whitehouse.gov	Marketing Coordinator	69351.45	1999-12-28	2012-03-15	5	6	6
	ham	Alabama	35279	737-296-7174	wwhitechurch6@ft.com	Senior Sales	52555.82	2002-04-11	2007-09-26	2	6	7
	Texas	78726	258-889-5090	eslocombe7@fastcompany.com	Inventory Manager	78055.82	1996-07-15	2022-11-09	3	3	8	
	Nebraska	68134	190-658-1761	vfrancescoccio8@plala.or.jp	Merchandising Manager	73804.93	2000-12-19	2008-03-03	3	2	9	
	field	California	93381	803-740-5390	gjeal9@alibaba.com	Stock Control Specialist	59921.50	2001-08-11	2006-01-18	3	2	10
	geles	California	90055	533-798-5900	hpavlenko@e-recht24.de	HR Manager	69400.64	1992-04-19	2002-02-01	1	6	11
	age	Alaska	99599	217-790-3772	ggergeb@123-reg.co.uk	HR Manager	67655.34	1992-02-23	2014-08-03	1	6	12
	n	Texas	77288	732-342-6313	rarnouldc@digging.com	Training Coordinator	37842.86	2001-03-25	2014-03-15	6	6	13
	lu	Hawaii	96850	456-737-0675	tfoulserd@opensource.org	Recruiter	33291.88	2001-05-02	2012-12-21	1	6	14
	outh	New Hamps...	3804	865-458-9521	rantczake@networksolutions.c...	Senior Sales Associate	65671.26	2001-03-30	2004-07-19	2	2	15
	ington	District of C...	20566	351-472-3699	jhyderf@abc.net.au	Recruiter	51808.27	1997-11-06	2009-11-04	1	6	16
	geles	California	90060	834-299-9698	jgoodingsg@wix.com	Recruiter	53808.67	1999-12-04	2004-11-07	1	6	17
	Texas	79977	514-999-8294	mrobllarth@spiegel.de	Senior Sales	51177.13	1996-12-24	2020-02-01	2	2	18	
	na	California	91125	371-970-6449	bpeto1@huffingtonpost.com	Senior Sales	49552.06	1993-07-09	2005-11-18	2	6	19
	New York	12255	799-394-0438	cstenyngj@blogtalkradio.com	Sales Manager	46847.34	1993-08-05	2015-05-12	2	6	20	
	ille	Indiana	47705	774-942-3340	vborriek@reference.com	Sales Manager	46273.28	1997-03-27	2022-11-12	2	3	21
	polis	Arizona	85754	415-933-0260	cbrafferton1@ehow.com	Sales Support Specialist	46273.28	1994-06-24	2003-06-29	2	2	22
	End	Minnesota	55480	319-344-8484	gjovicic@surveymonkey.com	Sales Support Specialist	46273.28	1991-07-06	2003-12-09	2	4	23
	m	Indiana	46614	927-247-6331	tcappn@yahoo.com	Sales Support Specialist	46273.28	2001-10-20	2016-10-14	2	2	24
	ego	California	92812	259-451-3413	cansello@wix.com	Sales Support Specialist	37398.69	1991-08-04	2002-11-27	2	4	25
	each	California	92191	817-460-1089	rdymtentp@blogtalkradio.com	Sales Support Specialist	39398.69	1992-09-07	2021-12-05	2	1	26
	Kansas	90810	945-260-7672	jbrownbridgeq@blogs.com	Sales Support Specialist	46273.28	2000-12-03	2006-02-27	2	4	27	
	ood	Colorado	80150	649-335-2040	vdriffes@slideshare.net	Senior Sales	53545.82	1990-04-05	2013-06-22	2	6	29
	loud	Minnesota	56398	605-167-1993	bgioriot@biglobe.ne.jp	Recruiting Manager	60934.80	2001-11-25	2014-08-29	1	6	30
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	

SELECT \* FROM Department\_ProfG\_FP;

	DepartmentID	DepartmentName
▶	1	Human Resources
	2	Sales
	3	Product Management
	4	Customer Services
	5	Marketing
*	6	Training
	NULL	NULL

❖ Results of execution of Business Report #4 Query:

	NumberOfEmployee	DepartmentName
▶	6	Human Resources
	15	Sales
	3	Product Management
	3	Customer Services
	2	Marketing
	1	Training

## Business Report #5 – Decision to Target Top Three Campaigns by Revenue Generated For Upcoming Campaigns

- ❖ Report goals, objectives & decisions:

GUIDELINES	ANSWER
<b>Q1 – What is the Business Scenario &amp; Objectives?</b>	<ul style="list-style-type: none"> <li>▪ The marketing team is preparing to plan a promotional campaign that will reference three of the most successful campaigns in history, based on revenue generated.</li> </ul>
<b>Q2 – Target Persona/Decision Maker?</b>	<ul style="list-style-type: none"> <li>▪ Marketing Team.</li> </ul>
<b>Q3 – What is the Decision to be made?</b>	<ul style="list-style-type: none"> <li>▪ The Marketing Team needs to decide which target audience group be in this campaign.</li> <li>▪ This decision is based on the top three total revenues in previous successful campaigns.</li> </ul>
<b>Q4 – What Data is required to make the Decision?</b>	<ul style="list-style-type: none"> <li>▪ The data required to make a decision include CampaignID, CampaignName, StartDate, EndDate, Budget, Description, RevenueGenerated, AgeGroup, Gender, Location, and Interests.</li> </ul>
<b>Q5 – WHAT TABLES &amp; COLUMNS Contain the Data Identified in Q4 and what Query Components may be involved in creating the SELECT STATEMENT?</b>	<ul style="list-style-type: none"> <li>▪ The following Table in the database schema was ANALYZED and identified to contain the required data in its columns: <ul style="list-style-type: none"> <li>o Campaign_ProfG_FP – CampaignID, CampaignName, StartDate, EndDate, Budget, Description, RevenueGenerated, AgeGroup are found in this table.</li> <li>o TargetAudience_ProfG_FP – AgeGroup, Gender, Location, and Interests are found in this table.</li> </ul> </li> <li>▪ Using a SELECT, JOIN, ORDER BY &amp; LIMIT statement to get the data needed.</li> </ul>

- ❖ Derived Query for Business Report #5:

```

SELECT CampaignID, CampaignName, StartDate, EndDate, Budget, Description,
RevenueGenerated, AgeGroup, Gender, Location, Interests
FROM Campaign_ProfG_FP AS C
INNER JOIN TargetAudience_ProfG_FP AS TA
ON C.TargetID= TA.TargetID
ORDER BY RevenueGenerated DESC
LIMIT 3;

```

- ❖ Data that currently reside in the Tables being queried by Business Report #5:

```
SELECT * FROM Campaign_ProfG_FP;
```

	CampaignID	CampaignName	StartDate	EndDate	Budget	Description	RevenueGenerated	TargetID
▶	101	Summer Sale	2023-06-01	2023-08-31	50000.00	Enjoy special discounts on summer items.	65000.00	1
	102	Back-to-School	2023-08-15	2023-09-15	30000.00	Get ready for school with our exclusive offers.	40000.00	2
	103	Fall Fashion	2023-09-01	2023-11-30	45000.00	Discover the latest trends in fall fashion for all ages.	60000.00	3
	104	Holiday Extravaganza	2023-11-15	2023-12-31	80000.00	Celebrate the holidays with our diverse range of products.	120000.00	4
	105	Tech Bonanza	2023-07-01	2023-09-30	70000.00	Explore unbeatable prices on the latest tech gadgets.	85000.00	5
	106	Outdoor Adventure	2023-06-15	2023-08-15	35000.00	Equip yourself for outdoor exploration with our gear.	118000.00	6
	107	Wellness Week	2023-10-01	2023-10-07	20000.00	Prioritize your well-being with special wellness packages.	100000.00	7
	108	Home Sweet Home	2023-09-15	2023-11-15	60000.00	Transform your living space with our home essentials.	75000.00	8
	109	Gaming Galore	2023-07-15	2023-09-15	55000.00	Level up your gaming experience with exclusive deals.	70000.00	9
	110	Spring Fling	2023-04-01	2023-06-30	40000.00	Embrace the season with vibrant spring items for everyone.	52000.00	10
	111	Travel Essentials	2023-05-01	2023-07-31	45000.00	Get ready for your next adventure with our travel gear.	58000.00	11
	112	Health and Fitness	2023-01-15	2023-03-15	30000.00	Achieve your fitness goals with our health and fitness products.	38000.00	12
	113	Cozy Comforts	2023-10-15	2023-12-15	50000.00	Stay cozy and warm with our comfortable essential items.	65000.00	13
	114	Office Upgrade	2023-08-01	2023-10-01	40000.00	Elevate your workspace with our office upgrade solutions.	52000.00	14
	115	Summer Splash	2023-05-15	2023-07-15	60000.00	Cool off with our refreshing summer essentials.	75000.00	15
	116	Capture the Moment	2023-03-01	2023-05-31	35000.00	Preserve memories with our photography and camera gear.	48000.00	16
	117	Backyard Bliss	2023-06-01	2023-08-31	45000.00	Create your own oasis with our backyard essentials.	58000.00	17
	118	Fashion Forward	2023-02-15	2023-04-15	50000.00	Stay ahead of the trends with our latest fashion pieces.	65000.00	18
	119	Home Entertainment	2023-11-01	2023-12-31	70000.00	Elevate your home entertainment experience with our systems.	85000.00	19
	120	Pet Paradise	2023-04-15	2023-06-15	30000.00	Treat your pets to a paradise of toys and accessories.	40000.00	20
	121	Smart Living	2023-01-01	2023-03-01	55000.00	Integrate smart solutions for a more convenient lifestyle.	70000.00	21
	122	Summer Serenity	2023-07-15	2023-09-15	45000.00	Find peace and tranquility with our summer serenity items.	58000.00	22
	123	Workout Wonders	2023-03-15	2023-05-15	35000.00	Enhance your workout routine with our fitness equipment.	48000.00	23
	124	Gourmet Delights	2023-09-01	2023-11-01	50000.00	Indulge in gourmet delights with our premium food offerings.	65000.00	24
	125	Adventure Awaits	2023-04-01	2023-06-30	60000.00	Embark on new adventures with our outdoor equipment.	75000.00	25
	126	Tech Trends	2023-01-15	2023-03-15	40000.00	Stay updated with the latest tech trends and innovations.	52000.00	26
	127	Fall Fitness	2023-09-15	2023-11-15	55000.00	Stay fit and active with our fall fitness essentials.	70000.00	27
	128	Coastal Retreat	2023-05-01	2023-07-31	45000.00	Bring the coastal vibes into your home with our decor.	58000.00	28
	129	Winter Wonderland	2023-12-01	2023-12-31	35000.00	Experience the magic of winter with our wonderland items.	48000.00	29
	130	Tech Innovations	2023-08-15	2023-10-15	50000.00	Explore groundbreaking tech innovations with our latest gear.	65000.00	30
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

SELECT \* FROM TargetAudience\_ProfG\_FP;

Result Grid					Filter Rows:	Edit:
TargetID	AgeGroup	Gender	Location	Interests		
1	18-24	Male	New York	Sports		
2	25-34	Female	Los Angeles	Travel		
3	35-44	Non-Binary	Chicago	Food		
4	25-54	Male	New York	Technology		
5	45+	Female	San Francisco	Books		
6	18-24	Male	Dallas	Technology		
7	25-34	Female	Houston	Outdoor		
8	35-44	Non-Binary	Atlanta	Food		
9	45-54	Male	Seattle	Music		
10	55+	Female	Boston	Books		
11	18-24	Male	Denver	Technology		
12	25-34	Female	Phoenix	Outdoor		
13	35-44	Non-Binary	Detroit	Food		
14	45-54	Male	Minneapolis	Music		
15	55+	Female	Portland	Books		
16	18-24	Male	Philadelphia	Technology		
17	25-34	Female	Austin	Outdoor		
18	35-44	Non-Binary	San Diego	Food		
19	45-54	Male	Charlotte	Music		
20	55+	Female	Orlando	Books		
21	18-24	Male	Tampa	Technology		
22	25-34	Female	Pittsburgh	Outdoor		
23	35-44	Non-Binary	Columbus	Food		
24	45-54	Male	Indianapolis	Music		
25	55+	Female	New Orleans	Books		
26	18-24	Male	St. Louis	Technology		
27	25-34	Female	Kansas City	Outdoor		
28	35-44	Non-Binary	Raleigh	Food		
29	45-54	Male	Sacramento	Music		
30	55+	Female	Las Vegas	Books		
*	NULL	NULL	NULL	NULL	NULL	

TargetAudience\_ProfG\_FP 163 ×

❖ Results of execution of Business Report #5 Query:

Result Grid						Filter Rows:	Export:	Wrap Cell Content:	Fetch rows:	
CampaignID	CampaignName	StartDate	EndDate	Budget	Description	RevenueGenerated	AgeGroup	Gender	Location	Interests
104	Holiday Extravaganza	2023-11-15	2023-12-31	80000.00	Celebrate the holidays with our diverse range o...	120000.00	25-54	Male	New York	Technology
106	Outdoor Adventure	2023-06-15	2023-08-15	35000.00	Equip yourself for outdoor exploration with our ...	118000.00	18-24	Male	Dallas	Technology
107	Wellness Week	2023-10-01	2023-10-07	20000.00	Prioritize your well-being with special wellness p...	100000.00	25-34	Female	Houston	Outdoor

**Business Report #6 – Decision to Target Customer by CreditCardLimit and CreditCardBalance  
For Sending Advertisement and Coupon**

- ❖ Report goals, objectives & decisions:

GUIDELINES	ANSWER
<b>Q1 – What is the Business Scenario &amp; Objectives?</b>	<ul style="list-style-type: none"> <li>▪ The marketing team is targeting customers with customized advertising pages and coupons based on high-spending groups. Both the advertisements and coupons will be sent to their email and phone via text messages.</li> </ul>
<b>Q2 – Target Persona/Decision Maker?</b>	<ul style="list-style-type: none"> <li>▪ Marketing Team.</li> </ul>
<b>Q3 – What is the Decision to be made?</b>	<ul style="list-style-type: none"> <li>▪ The Marketing Team needs to decide which target customer to send the advertisement and coupons.</li> <li>▪ This decision is based on the CreditCardLimit &gt; 8000 and CreditCardBalance &gt; 3000 of each customer.</li> </ul>
<b>Q4 – What Data is required to make the Decision?</b>	<ul style="list-style-type: none"> <li>▪ The data required to make a decision includes Customer Name, Customer Email Address, Phone Number, CreditCardLimit and CreditCardBalance.</li> </ul>
<b>Q5 – WHAT TABLES &amp; COLUMNS Contain the Data Identified in Q4 and what Query Components may be involved in creating the SELECT STATEMENT?</b>	<ul style="list-style-type: none"> <li>▪ The following Table in the database schema was ANALYZED and identified to contain the required data in its columns: <ul style="list-style-type: none"> <li>o Customer_ProfG_FP – FirstName, LastName, Phone, and Email are found in this table.</li> <li>o CustomerCreditCard_ProfG_FP – CreditCardLimit and CreditCardBalance are found in this table.</li> </ul> </li> <li>▪ Using a SELECT and JOIN statement to get the data needed.</li> </ul>

- ❖ Derived Query for Business Report #6:

```

SELECT FirstName, LastName, Phone, Email, CreditCardLimit, CreditCardBalance
FROM Customer_ProfG_FP
INNER JOIN CustomerCreditCard_ProfG_FP
ON Customer_ProfG_FP.CustomerID= CustomerCreditCard_ProfG_FP.CustomerID
WHERE CreditCardLimit > 8000 AND CreditCardBalance > 3000;

```

- ❖ Data that currently reside in the Tables being queried by Business Report #6:

**SELECT \* FROM Customer\_ProfG\_FP;**

Result Grid													Filter Rows:	Edit:	Export/Import:	Wrap Cell Content:
	CustomerID	FirstName	LastName	BirthDate	AddressLine1	AddressLine2	City	State	ZipCode	Country	Phone	Email				
▶	1	John	Doe	1990-05-15	123 Main St	Apt 456	Cityville	CA	12345	USA	123-456-789	john.doe@email.com				
	2	Jane	Smith	1985-08-22	456 Oak St	NULL	Townsville	NY	54321	USA	234-567-890	jane.smith@email.com				
	3	Robert	Johnson	1992-03-10	789 Pine St	Suite 101	Villageton	TX	67890	USA	345-678-901	robert.johnson@email.com				
	4	Emily	Davis	1988-11-28	101 Cedar St	NULL	Cityburg	FL	98765	USA	456-789-012	emily.davis@email.com				
	5	Michael	Brown	1995-07-03	202 Elm St	Apt 303	Township	GA	34567	USA	567-890-123	michael.brown@email.com				
	6	Olivia	White	1980-12-18	303 Maple St	NULL	Villageville	CA	23456	USA	678-901-234	olivia.white@email.com				
	7	William	Lee	1987-09-05	404 Birch St	Suite 202	Townsville	NY	76543	USA	789-012-345	william.lee@email.com				
	8	Sophia	Taylor	1993-04-12	505 Spruce St	NULL	Cityburg	FL	87654	USA	890-123-456	sophia.taylor@email.com				
	9	James	Moore	1983-01-25	606 Oak St	Apt 404	Villageton	TX	78901	USA	901-234-567	james.moore@email.com				
	10	Ava	Turner	1998-06-08	707 Pine St	NULL	Township	GA	67890	USA	123-987-654	ava.turner@email.com				
	11	Ethan	Wilson	1986-02-14	808 Cedar St	NULL	Villageville	CA	45678	USA	234-567-890	ethan.wilson@email.com				
	12	Isabella	Hall	1991-10-31	909 Elm St	NULL	Cityville	CA	56789	USA	345-678-901	isabella.hall@email.com				
	13	Mason	Allen	1982-07-17	101 Cedar St	Apt 505	Cityburg	FL	34567	USA	456-789-012	mason.allen@email.com				
	14	Emma	Garcia	1989-04-03	202 Elm St	NULL	Township	GA	45678	USA	567-890-123	emma.garcia@email.com				
	15	Liam	Martinez	1994-12-20	303 Maple St	Suite 606	Villageville	CA	23456	USA	678-901-234	liam.martinez@email.com				
	16	Olivia	Cooper	1981-08-07	404 Birch St	Apt 707	Townsville	NY	67890	USA	789-012-345	olivia.cooper@email.com				
	17	Noah	Foster	1997-03-24	505 Spruce St	NULL	Cityburg	FL	78901	USA	890-123-456	noah.foster@email.com				
	18	Ava	Richardson	1984-11-10	606 Oak St	Suite 808	Villageton	TX	89012	USA	901-234-567	ava.richardson@email.com				
	19	Liam	Hughes	1986-06-27	707 Pine St	Apt 909	Township	GA	90123	USA	123-987-654	liam.hughes@email.com				
	20	Mia	Patterson	1990-01-14	808 Cedar St	NULL	Cityville	CA	1234	USA	234-567-890	mia.patterson@email.com				
	21	Elijah	Bryant	1995-10-02	909 Elm St	Suite 101	Villageton	TX	12345	USA	345-678-901	elijah.bryant@email.com				
	22	Isabella	Reed	1987-05-19	101 Cedar St	Apt 303	Township	GA	34567	USA	456-789-012	isabella.reed@email.com				
	23	Aiden	Carter	1980-02-05	202 Elm St	Suite 404	Cityburg	FL	56789	USA	567-890-123	aiden.carter@email.com				
	24	Amelia	Howard	1992-09-22	303 Maple St	Apt 505	Villageville	CA	45678	USA	678-901-234	amelia.howard@email.com				
	25	Lucas	Watson	1988-06-09	404 Birch St	Suite 606	Townsville	NY	67890	USA	789-012-345	lucas.watson@email.com				
	26	Sophie	Mitchell	1994-01-26	505 Spruce St	Apt 707	Cityburg	FL	78901	USA	890-123-456	sophie.mitchell@email.com				
	27	Landon	Gray	1981-10-13	606 Oak St	Suite 808	Villageton	TX	89012	USA	901-234-567	landon.gray@email.com				
	28	Aria	Bell	1986-07-30	707 Pine St	NULL	Township	GA	90123	USA	123-987-654	aria.bell@email.com				
	29	Lincoln	Diaz	1991-04-15	808 Cedar St	Apt 909	Cityville	CA	1234	USA	234-567-890	lincoln.diaz@email.com				
	30	Zoey	Hill	1983-11-02	909 Elm St	Suite 101	Townsville	NY	12345	USA	345-678-901	zoey.hill@email.com				
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				

**SELECT \* FROM CustomerCreditCard\_ProfG\_FP;**

Result Grid														Filter Rows:	Edit:	Export/Import:	Wrap Cell Content:
	CreditCardNumber	CustomerID	CreditCardOwnerName	CreditCardIssuingCompany	ExpDate	AddressLine1	AddressLine2	City	StateCode	ZipCode	Country	CreditCardLimit	CreC				
▶	1111222233344440	30	Zoey Hill	TD Bank	2025-05-01	909 Elm St	Suite 101	Townsville	NY	12345	USA	9300.00	3000				
	1234567812345670	17	Noah Foster	Citibank	2024-11-01	505 Spruce St	NULL	Cityburg	FL	78901	USA	9200.00	3300				
	123456789012345670	24	Amelia Howard	Capital One	2025-01-01	303 Maple St	Apt 505	Villageville	CA	45678	USA	7800.00	1900				
	2345678901789010	29	Lincoln Diaz	Citibank	2024-11-01	808 Cedar St	Apt 909	Cityville	CA	1234	USA	7600.00	2400				
	2850634928345670	7	William Lee	Chase	2024-09-01	404 Birch St	Suite 202	Townsville	NY	76543	USA	9000.00	3500				
	3014567823456780	16	Olivia Cooper	Citibank	2025-06-01	404 Birch St	Apt 707	Townsville	NY	67890	USA	8200.00	2900				
	3412650912345670	23	Aiden Carter	Capital One	2024-07-01	202 Elm St	Suite 404	Cityburg	FL	56789	USA	10500.00	3100				
	3714987654321090	6	Olivia White	Chase	2025-07-01	303 Maple St	NULL	Villageville	CA	23456	USA	7000.00	1800				
	4022567812345670	4	Emily Davis	Chase	2025-04-01	101 Cedar St	NULL	Cityburg	FL	98765	USA	6000.00	2500				
	4444333322211110	30	Zoey Hill	Capital One	2025-05-01	909 Elm St	Suite 101	Townsville	NY	12345	USA	9300.00	3000				
	4485123412345670	1	John Doe	Chase	2024-12-01	123 Main St	Apt 456	Cityville	CA	12345	USA	5000.00	1500				
	4567123458769010	20	Mia Patterson	Capital One	2025-04-01	808 Cedar St	NULL	Cityville	CA	1234	USA	9300.00	3000				
	4567890123456780	27	Landon Gray	Capital One	2024-12-01	606 Oak St	Suite 808	Villageton	TX	89012	USA	11000.00	3700				
	4736190487654320	14	Emma Garcia	Citibank	2025-02-01	202 Elm St	NULL	Township	GA	45678	USA	8800.00	2600				
	5183760912345670	5	Michael Brown	Chase	2024-11-01	202 Elm St	Apt 303	Township	GA	34567	USA	12000.00	4000				
	5328901234567890	2	Jane Smith	Chase	2025-08-01	456 Oak St	NULL	Townsville	NY	54321	USA	8000.00	3000				
	5432109876123450	21	Elijah Bryant	Capital One	2024-10-01	909 Elm St	Suite 101	Villageton	TX	12345	USA	11000.00	3200				
	5548962031876540	13	Mason Allen	Chase	2024-08-01	101 Cedar St	Apt 505	Cityburg	FL	34567	USA	7800.00	1900				
	5678123450987650	29	Lincoln Diaz	TD Bank	2024-11-01	808 Cedar St	Apt 909	Cityville	CA	1234	USA	7600.00	2400				
	6010123456789010	3	Robert Johnson	Chase	2024-06-01	789 Pine St	Suite 101	Villageton	TX	67890	USA	10000.00	2000				
	6392074851234560	12	Isabella Hall	Chase	2025-01-01	909 Elm St	NULL	Cityville	CA	56789	USA	10500.00	3100				
	6921304812345670	8	Sophia Taylor	Chase	2025-05-01	505 Spruce St	NULL	Cityburg	FL	87654	USA	7500.00	2800				
	7261589340678910	11	Ethan Wilson	Chase	2024-07-01	808 Cedar St	Suite 303	Villageville	CA	45678	USA	8500.00	2300				
	7890123450678120	28	Aria Bell	TD Bank	2025-06-01	707 Pine St	NULL	Township	GA	90123	USA	9200.00	3300				
	7890123456123450	18	Ava Richardson	Citibank	2025-05-01	606 Oak St	Suite 808	Villageton	TX	89012	USA	11000.00	3700				
	8476590123456780	9	James Moore	Chase	2024-10-01	606 Oak St	Apt 404	Villageton	TX	78901	USA	11000.00	3200				
	8612740591234560	15	Liam Martinez	Citibank	2024-12-01	303 Maple St	Suite 606	Villageville	CA	56789	USA	9700.00	3400				
	8756123401234560	25	Lucas Watson	Capital One	2024-08-01	404 Birch St	Suite 606	Townsville	NY	67890	USA	8800.00	2600				
	8765123012345670	22	Isabella Reed	Capital One	2025-03-01	101 Cedar St	Apt 303	Township	GA	34567	USA	9500.00	2700				
	9105678212345670	26	Sophie Mitchell	Capital One	2025-02-01	505 Spruce St	Apt 707	Cityburg	FL	78901	USA	9700.00	3400				
	9157342012345670	10	Ava Turner	Chase	2025-03-01	707 Pine St	NULL	Township	GA	67890	USA	9500.00	2700				
	9876543210234560	19	Liam Hughes	Capital One	2024-09-01	707 Pine St	Apt 909	Township	GA	90123	USA	7600.00	2400				
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL				

CreditCardLimit	CreditCardBalance	ActivationStatus
9300.00	3000.00	1
9200.00	3300.00	1
7800.00	1900.00	1
7600.00	2400.00	1
9000.00	3500.00	1
8200.00	2900.00	1
10500.00	3100.00	1
7000.00	1800.00	1
6000.00	2500.00	1
9300.00	3000.00	1
5000.00	1500.00	1
9300.00	3000.00	1
11000.00	3700.00	1
8800.00	2600.00	1
12000.00	4000.00	1
8000.00	3000.00	1
11000.00	3200.00	1
7800.00	1900.00	1
7600.00	2400.00	1
10000.00	2000.00	1
10500.00	3100.00	1
7500.00	2800.00	1
8500.00	2300.00	1
9200.00	3300.00	1
11000.00	3700.00	1
11000.00	3200.00	1
9700.00	3400.00	1
8800.00	2600.00	1
9500.00	2700.00	1
9700.00	3400.00	1
9500.00	2700.00	1
7600.00	2400.00	1
NULL	NULL	NULL

❖ Results of execution of Business Report #6 Query:

Result Grid		Filter Rows:	Export:		Wrap Cell Content:			
			FirstName	LastName	Phone	Email	CreditCardLimit	CreditCardBalance
▶	Noah	Foster	890-123-456	noah.foster@email.com	9200.00	3300.00		
	William	Lee	789-012-345	william.lee@email.com	9000.00	3500.00		
	Aiden	Carter	567-890-123	aiden.carter@email.com	10500.00	3100.00		
	Landon	Gray	901-234-567	landon.gray@email.com	11000.00	3700.00		
	Michael	Brown	567-890-123	michael.brown@email.com	12000.00	4000.00		
	Elijah	Bryant	345-678-901	elijah.bryant@email.com	11000.00	3200.00		
	Isabella	Hall	345-678-901	isabella.hall@email.com	10500.00	3100.00		
	Aria	Bell	123-987-654	aria.bell@email.com	9200.00	3300.00		
	Ava	Richardson	901-234-567	ava.richardson@email.com	11000.00	3700.00		
	James	Moore	901-234-567	james.moore@email.com	11000.00	3200.00		
	Liam	Martinez	678-901-234	liam.martinez@email.com	9700.00	3400.00		
	Sophie	Mitchell	890-123-456	sophie.mitchell@email.com	9700.00	3400.00		

## Business Report #7 – Decision to target a State to Open a NEW Branch by the Amount of Customers

- ❖ Report goals, objectives & decisions:

GUIDELINES	ANSWER
<b>Q1 – What is the Business Scenario &amp; Objectives?</b>	<ul style="list-style-type: none"> <li>▪ As the company continues to attract a growing number of customers, the management team and executives have made the decision to open a new branch. Currently, they are in the process of targeting a specific state as the location for this new branch by the amount of customers in that specific state.</li> </ul>
<b>Q2 – Target Persona/Decision Maker?</b>	<ul style="list-style-type: none"> <li>▪ Executives and Management team.</li> </ul>
<b>Q3 – What is the Decision to be made?</b>	<ul style="list-style-type: none"> <li>▪ The Executives and Management team needs to decide which state to open the branch.</li> <li>▪ This decision is based on the number of customers in a specific state.</li> </ul>
<b>Q4 – What Data is required to make the Decision?</b>	<ul style="list-style-type: none"> <li>▪ The data required to make decision includes amount of customers in each state.</li> </ul>
<b>Q5 – WHAT TABLES &amp; COLUMNS Contain the Data Identified in Q4 and what Query Components may be involved in creating the SELECT STATEMENT?</b>	<ul style="list-style-type: none"> <li>▪ The following Table in the database schema was ANALYZED and identified to contain the required data in its columns: <ul style="list-style-type: none"> <li>o Customer_ProfG_FP – CustomerID and State are found in this table.</li> </ul> </li> <li>▪ Using a SELECT, COUNT, GROUP BY, and ORDER BY statement to get the data needed.</li> </ul>

- ❖ Derived Query for Business Report #7:

```

SELECT COUNT(CustomerID), State
FROM Customer_ProfG_FP
GROUP BY State
ORDER BY COUNT(CustomerID) DESC;

```

- ❖ Data that currently reside in the Tables being queried by Business Report #7:

```
SELECT * FROM Customer_ProfG_FP;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: |

	CustomerID	FirstName	LastName	BirthDate	AddressLine1	AddressLine2	City	State	ZipCode	Country	Phone	Email
▶	1	John	Doe	1990-05-15	123 Main St	Apt 456	Cityville	CA	12345	USA	123-456-789	john.doe@email.com
	2	Jane	Smith	1985-08-22	456 Oak St	NULL	Townsville	NY	54321	USA	234-567-890	jane.smith@email.com
	3	Robert	Johnson	1992-03-10	789 Pine St	Suite 101	Villageton	TX	67890	USA	345-678-901	robert.johnson@email.com
	4	Emily	Davis	1988-11-28	101 Cedar St	NULL	Cityburg	FL	98765	USA	456-789-012	emily.davis@email.com
	5	Michael	Brown	1995-07-03	202 Elm St	Apt 303	Township	GA	34567	USA	567-890-123	michael.brown@email.com
	6	Olivia	White	1980-12-18	303 Maple St	NULL	Villageville	CA	23456	USA	678-901-234	olivia.white@email.com
	7	William	Lee	1987-09-05	404 Birch St	Suite 202	Townsville	NY	76543	USA	789-012-345	william.lee@email.com
	8	Sophia	Taylor	1993-04-12	505 Spruce St	NULL	Cityburg	FL	87654	USA	890-123-456	sophia.taylor@email.com
	9	James	Moore	1983-01-25	606 Oak St	Apt 404	Villageton	TX	78901	USA	901-234-567	james.moore@email.com
	10	Ava	Turner	1998-06-08	707 Pine St	NULL	Township	GA	67890	USA	123-987-654	ava.turner@email.com
	11	Ethan	Wilson	1986-02-14	808 Cedar St	NULL	Villageville	CA	45678	USA	234-567-890	ethan.wilson@email.com
	12	Isabella	Hall	1991-10-31	909 Elm St	NULL	Cityville	CA	56789	USA	345-678-901	isabella.hall@email.com
	13	Mason	Allen	1982-07-17	101 Cedar St	Apt 505	Cityburg	FL	34567	USA	456-789-012	mason.allen@email.com
	14	Emma	Garcia	1989-04-03	202 Elm St	NULL	Township	GA	45678	USA	567-890-123	emma.garcia@email.com
	15	Liam	Martinez	1994-12-20	303 Maple St	Suite 606	Villageville	CA	23456	USA	678-901-234	liam.martinez@email.com
	16	Olivia	Cooper	1981-08-07	404 Birch St	Apt 707	Townsville	NY	67890	USA	789-012-345	olivia.cooper@email.com
	17	Noah	Foster	1997-03-24	505 Spruce St	NULL	Cityburg	FL	78901	USA	890-123-456	noah.foster@email.com
	18	Ava	Richardson	1984-11-10	606 Oak St	Suite 808	Villageton	TX	89012	USA	901-234-567	ava.richardson@email.com
	19	Liam	Hughes	1986-06-27	707 Pine St	Apt 909	Township	GA	90123	USA	123-987-654	liam.hughes@email.com
	20	Mia	Patterson	1990-01-14	808 Cedar St	NULL	Cityville	CA	1234	USA	234-567-890	mia.patterson@email.com
	21	Elijah	Bryant	1995-10-02	909 Elm St	Suite 101	Villageton	TX	12345	USA	345-678-901	elijah.bryant@email.com
	22	Isabella	Reed	1987-05-19	101 Cedar St	Apt 303	Township	GA	34567	USA	456-789-012	isabella.reed@email.com
	23	Aiden	Carter	1980-02-05	202 Elm St	Suite 404	Cityburg	FL	56789	USA	567-890-123	aiden.carter@email.com
	24	Amelia	Howard	1992-09-22	303 Maple St	Apt 505	Villageville	CA	45678	USA	678-901-234	amelia.howard@email.com
	25	Lucas	Watson	1988-06-09	404 Birch St	Suite 606	Townsville	NY	67890	USA	789-012-345	lucas.watson@email.com
	26	Sophie	Mitchell	1994-01-26	505 Spruce St	Apt 707	Cityburg	FL	78901	USA	890-123-456	sophie.mitchell@email.com
	27	Landon	Gray	1981-10-13	606 Oak St	Suite 808	Villageton	TX	89012	USA	901-234-567	landon.gray@email.com
	28	Aria	Bell	1986-07-30	707 Pine St	NULL	Township	GA	90123	USA	123-987-654	aria.bell@email.com
	29	Lincoln	Diaz	1991-04-15	808 Cedar St	Apt 909	Cityville	CA	1234	USA	234-567-890	lincoln.diaz@email.com
	30	Zoey	Hill	1983-11-02	909 Elm St	Suite 101	Townsville	NY	12345	USA	345-678-901	zoey.hill@email.com
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

❖ Results of execution of Business Report #7 Query:

Result Grid | Filter Rows: |

	COUNT(CustomerID)	State
▶	8	CA
	6	FL
	6	GA
	5	NY
	5	TX

## Business Report #8 – Decision to target Credit Card Company by Amount of Credit Card Users For Future Cooperation

- ❖ Report goals, objectives & decisions:

GUIDELINES	ANSWER
<b>Q1 – <i>What is the Business Scenario &amp; Objectives?</i></b>	<ul style="list-style-type: none"> <li>▪ In this business scenario, the objective is to determine what are popular credit card companies. Upon identifying the popular credit card company, our company intends to cooperate with them. This analysis will provide valuable insights into customer preferences, enabling the company to make an informed decision regarding the selection of their credit card company for future cooperation.</li> </ul>
<b>Q2 – <i>Target Persona/Decision Maker?</i></b>	<ul style="list-style-type: none"> <li>▪ Finance Management team.</li> </ul>
<b>Q3 – <i>What is the Decision to be made?</i></b>	<ul style="list-style-type: none"> <li>▪ The Finance Management team determines which credit card company to cooperate.</li> <li>▪ The decision is based on the number of users for each credit card company.</li> </ul>
<b>Q4 – <i>What Data is required to make the Decision?</i></b>	<ul style="list-style-type: none"> <li>▪ The data required to make decision includes CreditCard Issuing Company Name, Company Representative Name, Contact Email, and Corporate Discount Percentage Rate.</li> </ul>
<b>Q5 – <i>WHAT TABLES &amp; COLUMNS Contain the Data Identified in Q4 and what Query Components may be involved in creating the SELECT STATEMENT?</i></b>	<ul style="list-style-type: none"> <li>▪ The following Table and columns would be used: <ul style="list-style-type: none"> <li>o CustomerCreditCard_ProfG_FP – CustomerID, CreditCardIssuingCompany, and ActivationStatus are found in this table.</li> </ul> </li> <li>▪ Using a SELECT, COUNT statement to get the data needed.</li> </ul>

- ❖ Derived Query for Business Report #8:

```

SELECT CreditCardIssuingCompany, COUNT(CustomerID) AS "Number of Customer"
FROM CustomerCreditCard_ProfG_FP
WHERE ActivationStatus = 1
GROUP BY CreditCardIssuingCompany
ORDER BY COUNT(CustomerID) DESC;
```

- ❖ Data that currently reside in the Tables being queried by Business Report #8:

```

SELECT * FROM CustomerCreditCard_ProfG_FP;
```

Result Grid														Result Grid
CreditCardNumber	CustomerID	CreditCardOwnerName	CreditCardIssuingCompany	ExpDate	AddressLine1	AddressLine2	City	StateCode	ZipCode	Country	CreditCardLimit	Crer	Res	Grid
► 11122223334440	30	Zoey Hill	TD Bank	2025-05-01	909 Elm St	Suite 101	Townsville	NY	12345	USA	9300.00	3000		
1234567812345670	17	Noah Foster	Cit Bank	2024-11-01	505 Spruce St	NULL	Cityburg	FL	78901	USA	9200.00	3300		
1234678901234560	24	Amelia Howard	Capital One	2025-01-01	303 Maple St	Apt 505	Villageville	CA	45678	USA	7800.00	1900		
2345678901789010	29	Lincoln Diaz	Cit Bank	2024-11-01	808 Cedar St	Apt 909	Cityville	CA	1234	USA	7600.00	2400		
2850634928345670	7	William Lee	Chase	2024-09-01	404 Birch St	Suite 202	Townsville	NY	76543	USA	9000.00	3500		
3014567823456780	16	Olivia Cooper	Cit Bank	2025-06-01	404 Birch St	Apt 707	Townsville	NY	67890	USA	8200.00	2900		
3412650912345670	23	Aiden Carter	Capital One	2024-07-01	202 Elm St	Suite 404	Cityburg	FL	56789	USA	10500.00	3100		
3714987654321090	6	Olivia White	Chase	2025-07-01	303 Maple St	NULL	Villageville	CA	23456	USA	7000.00	1800		
4022567812345670	4	Emily Davis	Chase	2025-04-01	101 Cedar St	NULL	Cityburg	FL	98765	USA	6000.00	2500		
444433332221110	30	Zoey Hill	Capital One	2025-05-01	909 Elm St	Suite 101	Townsville	NY	12345	USA	9300.00	3000		
4485123412345670	1	John Doe	Chase	2024-12-01	123 Main St	Apt 456	Cityville	CA	12345	USA	5000.00	1500		
4567123458769010	20	Mia Patterson	Capital One	2025-04-01	808 Cedar St	NULL	Cityville	CA	1234	USA	9300.00	3000		
4567890123456780	27	Landon Gray	Capital One	2024-12-01	606 Oak St	Suite 808	Villageton	TX	89012	USA	11000.00	3700		
4736190487654320	14	Emma Garcia	Cit Bank	2025-02-01	202 Elm St	NULL	Township	GA	45678	USA	8800.00	2600		
5183760912345670	5	Michael Brown	Chase	2024-11-01	202 Elm St	Apt 303	Township	GA	34567	USA	12000.00	4000		
5328901234567890	2	Jane Smith	Chase	2025-08-01	456 Oak St	NULL	Townsville	NY	54321	USA	8000.00	3000		
5432109876123450	21	Elijah Bryant	Capital One	2024-10-01	909 Elm St	Suite 101	Villageton	TX	12345	USA	11000.00	3200		
5548962031876540	13	Mason Allen	Chase	2024-08-01	101 Cedar St	Apt 505	Cityburg	FL	34567	USA	7800.00	1900		
5678123450987650	29	Lincoln Diaz	TD Bank	2024-11-01	808 Cedar St	Apt 909	Cityville	CA	1234	USA	7600.00	2400		
6010123456789010	3	Robert Johnson	Chase	2024-06-01	789 Pine St	Suite 101	Villageton	TX	67890	USA	10000.00	2000		
6392074851234560	12	Isabella Hall	Chase	2025-01-01	909 Elm St	NULL	Cityville	CA	56789	USA	10500.00	3100		
6921304812345670	8	Sophia Taylor	Chase	2025-05-01	505 Spruce St	NULL	Cityburg	FL	87654	USA	7500.00	2800		
7261589340578910	11	Ethan Wilson	Chase	2024-07-01	808 Cedar St	Suite 303	Villageville	CA	45678	USA	8500.00	2300		
7890123450678120	28	Aria Bell	TD Bank	2025-06-01	707 Pine St	NULL	Township	GA	90123	USA	9200.00	3300		
7890123456123450	18	Ava Richardson	Cit Bank	2025-05-01	606 Oak St	Suite 808	Villageton	TX	89012	USA	11000.00	3700		
8476590123456780	9	James Moore	Chase	2024-10-01	606 Oak St	Apt 404	Villageton	TX	78901	USA	11000.00	3200		
8612740591234560	15	Liam Martinez	Cit Bank	2024-12-01	303 Maple St	Suite 606	Villageville	CA	56789	USA	9700.00	3400		
8756123401234560	25	Lucas Watson	Capital One	2024-08-01	404 Birch St	Suite 606	Townsville	NY	67890	USA	8800.00	2600		
8765123012345670	22	Isabella Reed	Capital One	2025-03-01	101 Cedar St	Apt 303	Township	GA	34567	USA	9500.00	2700		
910578212345670	26	Sophie Mitchell	Capital One	2025-02-01	505 Spruce St	Apt 707	Cityburg	FL	78901	USA	9700.00	3400		
9157342012345670	10	Ava Turner	Chase	2025-03-01	707 Pine St	NULL	Township	GA	67890	USA	9500.00	2700		
9876543201234560	19	Liam Hughes	Capital One	2024-09-01	707 Pine St	Apt 909	Township	GA	90123	USA	7600.00	2400		
■ NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

CreditCardLimit	CreditCardBalance	ActivationStatus
9300.00	3000.00	1
9200.00	3300.00	1
7800.00	1900.00	1
7600.00	2400.00	1
9000.00	3500.00	1
8200.00	2900.00	1
10500.00	3100.00	1
7000.00	1800.00	1
6000.00	2500.00	1
9300.00	3000.00	1
5000.00	1500.00	1
9300.00	3000.00	1
11000.00	3700.00	1
8800.00	2600.00	1
12000.00	4000.00	1
8000.00	3000.00	1
11000.00	3200.00	1
7800.00	1900.00	1
7600.00	2400.00	1
10000.00	2000.00	1
10500.00	3100.00	1
7500.00	2800.00	1
8500.00	2300.00	1
9200.00	3300.00	1
11000.00	3700.00	1
11000.00	3200.00	1
9700.00	3400.00	1
8800.00	2600.00	1
9500.00	2700.00	1
9700.00	3400.00	1
9500.00	2700.00	1
7600.00	2400.00	1
NULL	NULL	NULL

- ❖ Results of execution of Business Report #8 Query:

	CreditCardIssuingCompany	Number of Customer
▶	TD Bank	3
	Citi Bank	6
	Capital One	10
	Chase	13

## Business Report #9 – Decision to Reward the Target Employee by Annual Review Rating

- ❖ Report goals, objectives & decisions:

GUIDELINES	ANSWER
<b>Q1 – What is the Business Scenario &amp; Objectives?</b>	<ul style="list-style-type: none"> <li>▪ In this business scenario, the objective is to determine which employees are doing a good job the whole year based on the annual review and reward them at the company's annual meeting.</li> </ul>
<b>Q2 – Target Persona/Decision Maker?</b>	<ul style="list-style-type: none"> <li>▪ HR team and all the Department Heads.</li> </ul>
<b>Q3 – What is the Decision to be made?</b>	<ul style="list-style-type: none"> <li>▪ The HR team determines who are the employees to award.</li> <li>▪ The decision is based on the annual review summary.</li> </ul>
<b>Q4 – What Data is required to make the Decision?</b>	<ul style="list-style-type: none"> <li>▪ The data required to make decision includes Employee Name, Email, Position, HireDate, Department Name, Evaluation Type, Rating, and Comment.</li> </ul>
<b>Q5 – WHAT TABLES &amp; COLUMNS Contain the Data Identified in Q4 and what Query Components may be involved in creating the SELECT STATEMENT?</b>	<ul style="list-style-type: none"> <li>▪ The following Table and columns would be used: <ul style="list-style-type: none"> <li>o Employee_ProfG_FP – FirstName, LastName, Email, Position and HireDate are found in this table.</li> <li>o Department_ProfG_FP – DepartmentName is found in this table.</li> <li>o EmployeeEvaluation_ProfG_FP – EvaluationType and Rating, Comment are found in this table.</li> </ul> </li> <li>▪ Using a SELECT, JOIN, and ORDER BY statement to get the data needed.</li> </ul>

- ❖ Derived Query for Business Report #9:

```

SELECT E.FirstName, E.LastName, E.Email, E.Position, E.HireDate, D.DepartmentName,
EE.EvaluationType, EE.Rating, EE.Comments
FROM Employee_ProfG_FP AS E
JOIN Department_ProfG_FP AS D
ON E.DepartmentID = D.DepartmentID
JOIN EmployeeEvaluation_ProfG_FP AS EE
ON E.EmployeeID = EE.EmployeeID
WHERE EvaluationType = 'Annual Review' AND Rating = 5
ORDER BY D.DepartmentName;

```

- ❖ Data that currently reside in the Tables being queried by Business Report #9:

```

SELECT * FROM Employee_ProfG_FP;

```

Result Grid											Filter Rows:	Edt.	Print	Export/Import:	Wrap Cell Content:	
	EmployeeID	FirstName	LastName	AddressLine1	AddressLine2	City	State	ZipCode	ContactNumber	Email	Position					
▶	1	Elka	Ikins	9712 Kenwood Alley	18th Floor	Carson City	Nevada	89714	654-269-4247	eikins0@webs.com	Sales Support Specialist					
	2	Tod	Neve	031 Kingsford Center	Apt 375	San Antonio	Texas	78210	801-654-4791	tneve1@nsw.gov.au	Customer Service Represe					
	3	Carmelia	Luetchford	10 Jay Terrace	Room 141	Tampa	Florida	33673	739-116-2573	duetchford2@joomla.org	Customer Service Represe					
	4	Manny	Masters	8 Scott Street	Room 368	Sacramento	California	94250	263-893-0479	mmasters3@imdb.com	Customer Service Represe					
	5	Camey	Clemente	9536 Debs Avenue	2nd Floor	Peoria	Illinois	61614	640-856-3927	clemente4@myspace.com	Marketing Manager					
	6	Saraann	Skoggins	09 Sunbrook Street	Apt 1769	Shawnee Mission	Kansas	66286	538-987-9228	sskoggins5@whitehouse.gov	Marketing Coordinator					
	7	Winfred	Whitechurch	725 Summer Ridge Trail	Room 1817	Birmingham	Alabama	35279	737-296-7174	wwhitechurch6@ft.com	Senior Sales					
	8	Englebert	Slocombe	749 Graedel Park	PO Box 82857	Austin	Texas	78726	258-889-5090	eslocombe7@fastcompany.com	Inventory Manager					
	9	Vladimir	Francescoccio	923 Main Road	Room 1867	Omaha	Nebraska	68134	190-658-1761	vfrancescoccio8@plala.or.jp	Merchandising Manager					
	10	Glenine	Jeal	592 Jackson Pass	PO Box 17670	Bakersfield	California	93381	803-740-5390	gjeal9@alibaba.com	Stock Control Specialist					
	11	Hi	Pavlenko	6727 Heffernan Street	Suite 33	Los Angeles	California	90055	533-798-5900	hpavlenko@e-recht24.de	HR Manager					
	12	Gifford	Gerge	02 Hoffman Pass	3rd Floor	Anchorage	Alaska	99599	217-790-3772	ggergeb@123-reg.co.uk	HR Manager					
	13	Rasla	Arnould	712 Cardinal Avenue	PO Box 19201	Houston	Texas	77288	732-342-6313	rarnouldc@digg.com	Training Coordinator					
	14	Thedrick	Fouser	545 Swallow Terrace	Suite 5	Honolulu	Hawaii	96850	456-737-0675	tfoulserd@opensource.org	Recruiter					
	15	Ryan	Antczak	9318 Summerview Trail	Suite 63	Portsmouth	New Hampshire	3804	865-458-9521	rantczake@networksolutions.c...	Senior Sales Associate					
	16	Joshua	Hyder	87 Elgar Circle	Room 1263	Washington	District of C...	20566	351-472-3699	jhyderf@abc.net.au	Recruiter					
	17	Juline	Goodings	59 Hanson Place	Apt 672	Los Angeles	California	90060	834-299-9698	jgoodingsg@wix.com	Recruiter					
	18	My	Robilart	6057 Pleasure Pass	Apt 671	El Paso	Texas	79977	514-999-8294	mrobilarth@spiegel.de	Senior Sales					
	19	Berkley	Peto	48443 Spaight Road	15th Floor	Pasadena	California	91125	371-970-6449	bpeto1@huffingtonpost.com	Senior Sales					
	20	Carita	Stenyng	687 Hudson Plaza	Room 1404	Albany	New York	12255	799-394-0438	cstenyngj@blogtalkradio.com	Sales Manager					
	21	Victor	Borrie	11611 Independence ...	Suite 12	Evansville	Indiana	47705	774-942-3340	vborriek@reference.com	Sales Manager					
	22	Corbin	Brafferton	1 Jay Way	3rd Floor	Tucson	Arizona	85754	415-933-0260	cbraffertonl@ehow.com	Sales Support Specialist					
	23	Galina	Jovicic	8496 Dakota Center	Suite 17	Minneapolis	Minnesota	55480	319-344-8484	gjovicic@surveymonkey.com	Sales Support Specialist					
	24	Tandie	Capp	2221 Sheridan Drive	Suite 45	South Bend	Indiana	46614	927-247-6331	tcappn@yahoo.com	Sales Support Specialist					
	25	Charita	Ansell	6186 Surrey Way	Apt 1993	Anaheim	California	92812	259-451-3413	cansello@wix.com	Sales Support Specialist					
	26	Rory	Dymont	336 Elka Park	5th Floor	San Diego	California	92191	817-460-1089	rdymenpt@blogtalkradio.com	Sales Support Specialist					
	27	Jermaine	Brownbridge	4862 Anderson Point	Room 723	Long Beach	California	90810	945-260-7672	jbrownbridgeq@blogs.com	Sales Support Specialist					
	28	Luis	Kane	9284 Westridge Junction	Suite 11	Topeka	Kansas	66699	397-227-9441	lkaner@bbb.org	Senior Sales					
	29	Val	Driffe	84 Knutson Crossing	Room 784	Englewood	Colorado	80150	649-335-2040	vdriffes@slideshare.net	Senior Sales					
	30	Barton	Giorio	3 Valley Edge Street	Room 82	Saint Cloud	Minnesota	56398	605-167-1993	bgioriot@biglobe.ne.jp	Recruiting Manager					
*	HULL	HULL	HULL	HULL	HULL	HULL	HULL	HULL	HULL	HULL	HULL					

Email	Position	Salary	BirthDate	HireDate	DepartmentID	TrainingID	LoginID
eikins0@webs.com	Sales Support Specialist	45672.70	1990-06-23	2002-11-08	2	1	1
tneve1@nsw.gov.au	Customer Service Representative	65650.49	1992-11-03	2015-09-19	4	1	2
duetchford2@joomla.org	Customer Service Representative	51082.07	2002-05-22	2017-03-27	4	5	3
mmasters3@imdb.com	Customer Service Representative	52626.74	1999-01-05	2011-05-13	4	5	4
cclemente4@myspace.com	Marketing Manager	75999.20	1994-06-03	2011-09-25	5	6	5
sskoggins5@whitehouse.gov	Marketing Coordinator	69351.45	1999-12-28	2012-03-15	5	6	6
wwhitechurch6@ft.com	Senior Sales	52555.82	2002-04-11	2007-09-26	2	6	7
eslocombe7@fastcompany.com	Inventory Manager	78055.82	1996-07-15	2022-11-09	3	3	8
vfrancescoccio8@plala.or.jp	Merchandising Manager	73804.93	2000-12-19	2008-03-03	3	2	9
gjeal9@alibaba.com	Stock Control Specialist	59921.50	2001-08-11	2006-01-18	3	2	10
hpavlenko@e-recht24.de	HR Manager	69400.64	1992-04-19	2002-02-01	1	6	11
ggergeb@123-reg.co.uk	HR Manager	67655.34	1992-02-23	2014-08-03	1	6	12
rarnouldc@digg.com	Training Coordinator	37842.86	2001-03-25	2014-03-15	6	6	13
tfoulserd@opensource.org	Recruiter	33291.88	2001-05-02	2012-12-21	1	6	14
rantczake@networksolutions.c...	Senior Sales Associate	56971.26	2001-03-30	2004-07-19	2	2	15
jhyderf@abc.net.au	Recruiter	51808.27	1997-11-06	2009-11-04	1	6	16
jgoodingsg@wix.com	Recruiter	53808.67	1999-12-04	2004-11-07	1	6	17
mobilarth@spiegel.de	Senior Sales	51177.13	1996-12-24	2020-02-01	2	2	18
bpeto1@huffingtonpost.com	Senior Sales	49552.06	1993-07-09	2005-11-18	2	6	19
cstenyngj@blogtalkradio.com	Sales Manager	46847.34	1993-08-05	2015-05-12	2	6	20
vborriek@reference.com	Sales Manager	46273.28	1997-03-27	2022-11-12	2	3	21
cbraffertonl@ehow.com	Sales Support Specialist	46273.28	1994-06-24	2003-06-29	2	2	22
gjovicic@surveymonkey.com	Sales Support Specialist	46273.28	1991-07-06	2003-12-09	2	4	23
tcappn@yahoo.com	Sales Support Specialist	46273.28	2001-10-20	2016-10-14	2	2	24
cansello@wix.com	Sales Support Specialist	37398.69	1991-08-04	2002-11-27	2	4	25
rdymenpt@blogtalkradio.com	Sales Support Specialist	39398.69	1992-09-07	2021-12-05	2	1	26
jbrownbridgeq@blogs.com	Sales Support Specialist	46273.28	2000-12-03	2006-02-27	2	4	27
lkaner@bbb.org	Senior Sales	52555.82	1997-04-12	2023-09-05	2	6	28
vdriffes@slideshare.net	Senior Sales	53545.82	1990-04-05	2013-06-22	2	6	29
bgioriot@biglobe.ne.jp	Recruiting Manager	60934.80	2001-11-25	2014-08-29	1	6	30
HULL	HULL	HULL	HULL	HULL	HULL	HULL	HULL

**SELECT \* FROM Department\_ProfG\_FP;**

	DepartmentID	DepartmentName
▶	1	Human Resources
2		Sales
3		Product Management
4		Customer Services
5		Marketing
6		Training
*	HULL	HULL

**SELECT \* FROM EmployeeEvaluation\_ProfG\_FP;**

	EvaluationID	EmployeeID	EvaluationDate	EvaluationType	Rating	Comments
▶	1	5	2023-01-10	Annual Review	4	Positive attitude and great teamwork.
2	12		2023-04-12	Quarterly Assessment	5	Consistently exceeds performance expectations.
3	8		2023-02-05	Monthly Check-in	3	Areas of improvement identified; ongoing training recommended.
4	18		2023-01-10	Annual Review	5	Adapts well to changes and demonstrates leadership.
5	3		2023-04-12	Quarterly Assessment	5	Excellent problem-solving skills and attention to detail.
6	26		2023-03-18	Monthly Check-in	3	Consistently meets expectations; improvement in communication skills suggested.
7	15		2023-01-10	Annual Review	5	Efficient time management and strong organizational skills.
8	7		2023-04-12	Quarterly Assessment	5	Demonstrates exceptional customer service skills.
9	23		2023-05-06	Monthly Check-in	3	Strong technical skills; further development in leadership encouraged.
10	9		2023-01-10	Annual Review	5	Effective collaboration with team members.
11	19		2023-04-12	Quarterly Assessment	5	Consistently produces high-quality work.
12	1		2023-06-22	Monthly Check-in	3	Detail-oriented; improvement in meeting deadlines suggested.
13	30		2023-01-10	Annual Review	5	Demonstrates a commitment to continuous learning.
14	22		2023-04-12	Quarterly Assessment	5	Adapts quickly to new challenges and takes initiative.
15	14		2023-08-14	Monthly Check-in	3	Strong problem-solving skills; improvement in teamwork recommended.
16	17		2023-01-10	Annual Review	5	Excellent interpersonal skills and positive team player.
17	25		2023-04-12	Quarterly Assessment	5	Consistently meets or exceeds performance goals.
18	10		2023-10-02	Monthly Check-in	3	Good analytical skills; further development in project management encouraged.
19	29		2023-01-10	Annual Review	4	Reliable and shows dedication to the team's success.
20	11		2023-04-12	Quarterly Assessment	5	Exceptional problem-solving abilities and strong work ethic.
21	21		2023-11-21	Monthly Check-in	3	Effective communication; further development in leadership skills recommended.
22	2		2023-01-10	Annual Review	5	Consistently produces accurate and thorough work.
23	16		2023-04-12	Quarterly Assessment	5	Demonstrates excellent time management and organizational skills.
24	27		2024-01-08	Monthly Check-in	3	Good teamwork; improvement in handling multiple tasks concurrently suggested.
25	4		2023-01-10	Annual Review	5	Highly motivated and committed to professional growth.
26	20		2023-04-12	Quarterly Assessment	5	Quick learner; adapts well to new technologies.
27	28		2024-02-28	Monthly Check-in	3	Shows initiative in taking on additional responsibilities.
28	6		2023-01-10	Annual Review	4	Strong problem-solving abilities and attention to detail.
29	13		2023-04-12	Quarterly Assessment	5	Consistently produces high-quality and accurate work.
30	24		2024-04-15	Monthly Check-in	3	Adapts well to feedback; improvement in leadership skills recommended.
*	HULL	HULL	HULL	HULL	HULL	HULL

#### ❖ Results of execution of Business Report #9 Query:

	FirstName	LastName	Email	Position	HireDate	DepartmentName	EvaluationType	Rating	Comments
▶	Tod	Neve	tneve1@nsw.gov.au	Customer Service Representative	2015-09-19	Customer Services	Annual Review	5	Consistently produces accurate and thorough work.
Manny	Masters		mmasters3@midb.com	Customer Service Representative	2011-05-13	Customer Services	Annual Review	5	Highly motivated and committed to professional growth.
Barton	Giorio		bgiorio@biglobe.ne.jp	Recruiting Manager	2014-08-29	Human Resources	Annual Review	5	Demonstrates a commitment to continuous learning.
Juline	Goodings		jgoodingsg@wix.com	Recruiter	2004-11-07	Human Resources	Annual Review	5	Excellent interpersonal skills and positive team player.
Vladimir	Francescoccio		vfrancescoccio8@plala.or.jp	Merchandising Manager	2008-03-03	Product Management	Annual Review	5	Effective collaboration with team members.
My	Roblart		mrobliarh@spiegel.de	Senior Sales	2020-02-01	Sales	Annual Review	5	Adapts well to changes and demonstrates leadership.
Ryun	Antczak		rantczake@networksolutions.com	Senior Sales Associate	2004-07-19	Sales	Annual Review	5	Efficient time management and strong organization.

## Business Report #10 – Decision to Contact the Target Customer by Pending Service Request

- ❖ Report goals, objectives & decisions:

GUIDELINES	ANSWER
<b>Q1 – What is the Business Scenario &amp; Objectives?</b>	<ul style="list-style-type: none"> <li>▪ After returning from vacation, the customer service team targets all customers and their corresponding service requests to follow up on pending service requests.</li> </ul>
<b>Q2 – Target Persona/Decision Maker?</b>	<ul style="list-style-type: none"> <li>▪ Customer Service team.</li> </ul>
<b>Q3 – What is the Decision to be made?</b>	<ul style="list-style-type: none"> <li>▪ The customer service team determines which customer to contact with.</li> <li>▪ The decision is based on the service request status.</li> </ul>
<b>Q4 – What Data is required to make the Decision?</b>	<ul style="list-style-type: none"> <li>▪ The data required to make decision includes Customer Name, Phone, Email, ServiceRequestID, RequestType, Description and Status.</li> </ul>
<b>Q5 – WHAT TABLES &amp; COLUMNS Contain the Data Identified in Q4 and what Query Components may be involved in creating the SELECT STATEMENT?</b>	<ul style="list-style-type: none"> <li>▪ The following Table and columns would be used: <ul style="list-style-type: none"> <li>o Customer_ProfG_FP – FirstName, LastName, Phone and Email are found in this table.</li> <li>o ServiceRequest_ProfG_FP – ServiceRequestID, RequestType, Description and Status are found in this table.</li> </ul> </li> <li>▪ Using a SELECT, JOIN statement to get the data needed.</li> </ul>

- ❖ Derived Query for Business Report #10:

```

SELECT ServiceRequestID, RequestDate, FirstName, LastName, Phone, Email, RequestType,
Description, Status
FROM ServiceRequest_ProfG_FP AS SR
JOIN Customer_ProfG_FP AS C
ON SR.CustomerID = C.CustomerID
WHERE Status = 'In Progress';

```

- ❖ Data that currently reside in the Tables being queried by Business Report #10:

```

SELECT * FROM ServiceRequest_ProfG_FP;

```

	ServiceRequestID	CustomerID	EmployeeID	RequestDate	RequestType	Description	Status	Rating
▶	1	12	5	2023-01-10	Product Inquiry	Inquiring about the availability of new clothing arrivals	Open	5
	2	8	15	2023-01-15	Order Modification	Requested to add an additional item to the recent order	In Progress	3
	3	5	10	2023-02-02	Return Request	Initiating the return process for a defective product	Completed	4
	4	17	20	2023-02-18	Technical Support	Experiencing issues with the online account login	Resolved	5
	5	23	7	2023-11-24	Product Inquiry	Seeking information about the specifications of a laptop	Open	3
	6	14	28	2023-11-24	Order Status	Inquiring about the current status of a pending order	In Progress	3
	7	19	11	2023-11-24	Return Request	Requesting a return due to a change in preference	Completed	3
	8	3	22	2023-11-24	Technical Support	Encountering difficulties in processing an online payment	Resolved	5
	9	27	2	2023-11-24	Product Inquiry	Asking about the available discounts on selected items	Open	3
	10	10	16	2023-11-24	Order Modification	Modifying the shipping address for a pending order	In Progress	3
	11	24	30	2023-11-24	Return Request	Initiating a return for a damaged product received	Completed	2
	12	1	13	2023-11-24	Technical Support	Seeking assistance with navigating the online store	Resolved	5
	13	18	26	2023-11-24	Product Inquiry	Inquiring about the return policy for electronic gadgets	Open	5
	14	9	21	2023-11-24	Order Status	Checking the status of a recently placed order	In Progress	4
	15	16	4	2023-11-24	Return Request	Requesting a return due to size-related issues with clothing	Completed	4
	16	22	19	2023-11-24	Technical Support	Experiencing difficulties in applying a discount code	Resolved	5
	17	11	29	2023-11-24	Product Inquiry	Seeking information on the warranty of a purchased appliance	Open	5
	18	6	8	2023-11-24	Order Modification	Adding a gift message to a pending order	In Progress	5
	19	28	1	2023-11-24	Return Request	Initiating a return for an incorrect item received	Completed	3
	20	13	23	2023-11-10	Technical Support	Troubleshooting issues with accessing the online account	Resolved	5
	21	25	6	2023-11-25	Product Inquiry	Inquiring about the availability of specific shoe sizes	Open	5
	22	4	17	2023-12-12	Order Status	Checking the estimated delivery time for an order	In Progress	3
	23	20	27	2023-12-11	Return Request	Requesting a return due to a change in mind about the purchase	Completed	2
	24	7	14	2023-01-15	Technical Support	Seeking assistance in recovering a forgotten password	Resolved	5
	25	30	3	2023-01-30	Product Inquiry	Asking for recommendations on the latest home appliances	Open	5
	26	2	9	2023-02-15	Order Modification	Modifying the quantity of items in a pending order	In Progress	5
	27	29	12	2023-03-02	Return Request	Initiating a return for a defective electronic device	Completed	4
	28	21	18	2023-03-18	Technical Support	Experiencing issues with the checkout process	Resolved	5
	29	5	25	2023-04-04	Product Inquiry	Inquiring about the availability of specific grocery items	Open	5
	30	26	16	2023-04-20	Order Status	Checking the status of a backordered product	In Progress	5
*	HULL	HULL	HULL	HULL	HULL	HULL	HULL	HULL

SELECT \* FROM Customer\_ProfG\_FP;

Result Grid   Filter Rows: <input type="button" value="Filter"/>   Edit: <input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Insert"/>   Export/Import: <input type="button" value="CSV"/> <input type="button" value="Excel"/>   Wrap Cell Content: <input type="checkbox"/>												
	CustomerID	FirstName	LastName	BirthDate	AddressLine1	AddressLine2	City	State	ZipCode	Country	Phone	Email
▶	1	John	Doe	1990-05-15	123 Main St	Apt 456	Cityville	CA	12345	USA	123-456-789	john.doe@email.com
	2	Jane	Smith	1985-08-22	456 Oak St	HULL	Townsville	NY	54321	USA	234-567-890	jane.smith@email.com
	3	Robert	Johnson	1992-03-10	789 Pine St	Suite 101	Villageton	TX	67890	USA	345-678-901	robert.johnson@email.com
	4	Emily	Davis	1988-11-28	101 Cedar St	HULL	Cityburg	FL	98765	USA	456-789-012	emily.davis@email.com
	5	Michael	Brown	1995-07-03	202 Elm St	Apt 303	Township	GA	34567	USA	567-890-123	michael.brown@email.com
	6	Olivia	White	1980-12-18	303 Maple St	HULL	Villageville	CA	23456	USA	678-901-234	olivia.white@email.com
	7	William	Lee	1987-09-05	404 Birch St	Suite 202	Townsville	NY	76543	USA	789-012-345	william.lee@email.com
	8	Sophia	Taylor	1993-04-12	505 Spruce St	HULL	Cityburg	FL	87654	USA	890-123-456	sophia.taylor@email.com
	9	James	Moore	1983-01-25	606 Oak St	Apt 404	Villageton	TX	78901	USA	901-234-567	james.moore@email.com
	10	Ava	Turner	1998-06-08	707 Pine St	HULL	Township	GA	67890	USA	123-987-654	ava.turner@email.com
	11	Ethan	Wilson	1986-02-14	808 Cedar St	HULL	Villageville	CA	45678	USA	234-567-890	ethan.wilson@email.com
	12	Isabella	Hall	1991-10-31	909 Elm St	HULL	Cityville	CA	56789	USA	345-678-901	isabella.hall@email.com
	13	Mason	Allen	1982-07-17	101 Cedar St	Apt 505	Cityburg	FL	34567	USA	456-789-012	mason.allen@email.com
	14	Emma	Garcia	1989-04-03	202 Elm St	HULL	Township	GA	45678	USA	567-890-123	emma.garcia@email.com
	15	Liam	Martinez	1994-12-20	303 Maple St	Suite 606	Villageville	CA	23456	USA	678-901-234	liam.martinez@email.com
	16	Olivia	Cooper	1981-08-07	404 Birch St	Apt 707	Townsville	NY	67890	USA	789-012-345	olivia.cooper@email.com
	17	Noah	Foster	1997-03-24	505 Spruce St	HULL	Cityburg	FL	78901	USA	890-123-456	noah.foster@email.com
	18	Ava	Richardson	1984-11-10	606 Oak St	Suite 808	Villageton	TX	89012	USA	901-234-567	ava.richardson@email.com
	19	Liam	Hughes	1986-06-27	707 Pine St	Apt 909	Township	GA	90123	USA	123-987-654	liam.hughes@email.com
	20	Mia	Patterson	1990-01-14	808 Cedar St	HULL	Cityville	CA	1234	USA	234-567-890	mia.patterson@email.com
	21	Elijah	Bryant	1995-10-02	909 Elm St	Suite 101	Villageton	TX	12345	USA	345-678-901	elijah.bryant@email.com
	22	Isabella	Reed	1987-05-19	101 Cedar St	Apt 303	Township	GA	34567	USA	456-789-012	isabella.reed@email.com
	23	Aiden	Carter	1980-02-05	202 Elm St	Suite 404	Cityburg	FL	56789	USA	567-890-123	aiden.carter@email.com
	24	Amelia	Howard	1992-09-22	303 Maple St	Apt 505	Villageville	CA	45678	USA	678-901-234	amelia.howard@email.com
	25	Lucas	Watson	1988-06-09	404 Birch St	Suite 606	Townsville	NY	67890	USA	789-012-345	lucas.watson@email.com
	26	Sophie	Mitchell	1994-01-26	505 Spruce St	Apt 707	Cityburg	FL	78901	USA	890-123-456	sophie.mitchell@email.com
	27	Landon	Gray	1981-10-13	606 Oak St	Suite 808	Villageton	TX	89012	USA	901-234-567	landon.gray@email.com
	28	Aria	Bell	1986-07-30	707 Pine St	HULL	Township	GA	90123	USA	123-987-654	aria.bell@email.com
	29	Lincoln	Diaz	1991-04-15	808 Cedar St	Apt 909	Cityville	CA	1234	USA	234-567-890	lincoln.diaz@email.com
	30	Zoey	Hill	1983-11-02	909 Elm St	Suite 101	Townsville	NY	12345	USA	345-678-901	zoey.hill@email.com
*	HULL	HULL	HULL	HULL	HULL	HULL	HULL	HULL	HULL	HULL	HULL	HULL

❖ Results of execution of Business Report #10 Query:

Result Grid									
	ServiceRequestID	RequestDate	FirstName	LastName	Phone	Email	RequestType	Description	Status
▶	2	2023-01-15	Sophia	Taylor	890-123-456	sophia.taylor@email.com	Order Modification	Requested to add an additional item to the recent order	In Progress
	6	2023-11-24	Emma	Garcia	567-890-123	emma.garcia@email.com	Order Status	Inquiring about the current status of a pending order	In Progress
	10	2023-11-24	Ava	Turner	123-987-654	ava.turner@email.com	Order Modification	Modifying the shipping address for a pending order	In Progress
	14	2023-11-24	James	Moore	901-234-567	james.moore@email.com	Order Status	Checking the status of a recently placed order	In Progress
	18	2023-11-24	Olivia	White	678-901-234	olivia.white@email.com	Order Modification	Adding a gift message to a pending order	In Progress
	22	2023-12-12	Emily	Davis	456-789-012	emily.davis@email.com	Order Status	Checking the estimated delivery time for an order	In Progress
	26	2023-02-15	Jane	Smith	234-567-890	jane.smith@email.com	Order Modification	Modifying the quantity of items in a pending order	In Progress
	30	2023-04-20	Sophie	Mitchell	890-123-456	sophie.mitchell@email.com	Order Status	Checking the status of a backordered product	In Progress

## Business Report #11 – Decision to Target Supplier by Product Supply Category For Business Expanding

- ❖ Report goals, objectives & decisions:

GUIDELINES	ANSWER
<b>Q1 – What is the Business Scenario &amp; Objectives?</b>	<ul style="list-style-type: none"> <li>▪ Our company aims to expand its business. The product management team is targeting suppliers based on the product categories they supply.</li> </ul>
<b>Q2 – Target Persona/Decision Maker?</b>	<ul style="list-style-type: none"> <li>▪ Product Management team.</li> </ul>
<b>Q3 – What is the Decision to be made?</b>	<ul style="list-style-type: none"> <li>▪ The product management team determines which supplier to purchase the product.</li> <li>▪ The decision is based on the product category.</li> </ul>
<b>Q4 – What Data is required to make the Decision?</b>	<ul style="list-style-type: none"> <li>▪ The data required to make decision includes product category, Supplier Name, Contact Person, ContactNumber and Email.</li> </ul>
<b>Q5 – WHAT TABLES &amp; COLUMNS Contain the Data Identified in Q4 and what Query Components may be involved in creating the SELECT STATEMENT?</b>	<ul style="list-style-type: none"> <li>▪ The following Table and columns would be used: <ul style="list-style-type: none"> <li>o Product_ProfG_FP – CategoryID and SupplierID are found in this table.</li> <li>o Supplier_ProfG_FP – Supplier Name, Contact Person, ContactNumber and Email are found in this table.</li> <li>o ProductCategory_ProfG_FP – Category Name, Description are found in this table.</li> </ul> </li> <li>▪ Using a SELECT, JOIN statement to get the data needed.</li> </ul>

- ❖ Derived Query for Business Report #11:

```

SELECT CategoryName, Description, SupplierName, ContactPerson, ContactNumber, Email
FROM Product_ProfG_FP
JOIN ProductCategory_ProfG_FP ON Product_ProfG_FP.CategoryID =
ProductCategory_ProfG_FP.CategoryID
JOIN Supplier_ProfG_FP ON Product_ProfG_FP.SupplierID = Supplier_ProfG_FP.SupplierID
GROUP BY CategoryName;

```

- ❖ Data that currently reside in the Tables being queried by Business Report #11:

```
select * from Product_ProfG_FP;
```

	ProductID	ProductName	CategoryID	SupplierID	Price	StockQuantity
▶	100001	T-Shirt	1	4	19.99	150
	100002	Running Shoes	2	4	49.95	100
	100003	Smartphone	3	1	599.99	50
	100004	Coffee Maker	4	2	89.95	30
	100005	Board Game	5	3	29.99	80
	100006	Laptop	3	1	899.99	20
	100007	Desk Chair	6	4	129.95	40
	100008	Sunglasses	7	4	24.99	200
	100009	Backpack	7	4	39.95	120
	100010	Bluetooth Speaker	3	5	59.99	70
	100011	HD TV	3	5	499.99	25
	100012	Tablet	3	5	349.99	60
	100013	Microwave Oven	4	2	129.95	35
	100014	Running Shorts	1	4	14.99	200
	100015	Refrigerator	4	2	899.99	15
	100016	Office Desk	6	4	199.95	50
	100017	Camera	3	1	449.99	40
	100018	Printer	3	1	79.95	30
	100019	Gaming Console	3	1	299.99	45
	100020	Yoga Mat	8	4	19.95	100
	100021	Blender	4	6	39.99	60
	100022	Watch	7	1	129.99	80
	100023	Wireless Earbuds	3	1	79.95	90
	100024	Bookshelf	6	5	79.99	25
	100025	Headphones	3	1	129.95	40
	100026	Gaming Chair	6	4	179.99	30
	100027	Backyard Grill	9	6	249.95	15
	100028	Running Jacket	1	6	34.99	120
	100029	Sofa	6	6	399.99	20
	100030	Home Theater Sy...	3	5	299.95	30
*	NULL	NULL	NULL	NULL	NULL	NULL

select \* from Supplier\_ProfG\_FP;

	SupplierID	SupplierName	ContactPerson	ContactNumber	Email
▶	1	ABC Electronics	Samantha Johnson	123-456-7890	supplierA@example.com
	2	XYZ Appliances	David Williams	987-654-3210	supplierB@example.com
	3	Global Gadgets	Michelle Davis	456-789-0123	supplierC@example.com
	4	Home Essentials	Brian Taylor	789-012-3456	supplierD@example.com
	5	Elite Electronics	Emily Walker	210-345-6789	supplierE@example.com
	6	OptiGoods	Christopher Brown	567-890-1234	supplierF@example.com
*	NULL	NULL	NULL	NULL	NULL

select \* from ProductCategory\_ProfG\_FP;

	CategoryID	CategoryName	Description
▶	1	Apparel	Clothing and accessories
	2	Shoes	Footwear for all occasions
	3	Electronics	Electronic gadgets and devices
	4	Appliances	Home and kitchen appliances
	5	Toys	Children's toys and games
	6	Furniture	Home and office furniture
	7	Accessories	Various accessories and add-ons
	8	Fitness	Fitness and exercise equipment
*	9	Outdoor	Outdoor and recreational items
	NULL	NULL	NULL

❖ Results of execution of Business Report #11 Query:

	CategoryName	Description	SupplierName	ContactPerson	ContactNumber	Email
▶	Electronics	Electronic gadgets and devices	ABC Electronics	Samantha Johnson	123-456-7890	supplierA@example.com
	Accessories	Various accessories and add-ons	ABC Electronics	Samantha Johnson	123-456-7890	supplierA@example.com
	Appliances	Home and kitchen appliances	XYZ Appliances	David Williams	987-654-3210	supplierB@example.com
	Toys	Children's toys and games	Global Gadgets	Michelle Davis	456-789-0123	supplierC@example.com
	Apparel	Clothing and accessories	Home Essentials	Brian Taylor	789-012-3456	supplierD@example.com
	Shoes	Footwear for all occasions	Home Essentials	Brian Taylor	789-012-3456	supplierD@example.com
	Furniture	Home and office furniture	Home Essentials	Brian Taylor	789-012-3456	supplierD@example.com
	Fitness	Fitness and exercise equipment	Home Essentials	Brian Taylor	789-012-3456	supplierD@example.com
	Outdoor	Outdoor and recreational items	OptiGoods	Christopher Brown	567-890-1234	supplierF@example.com

## Business Report #12 – Decision to Target Employee by Number of Service Requests for Promotion

- ❖ Report goals, objectives & decisions:

GUIDELINES	ANSWER
<b>Q1 – What is the Business Scenario &amp; Objectives?</b>	<ul style="list-style-type: none"> <li>▪ The customer service department has initiated an employee promotion, requesting the generation of a report based on the number of service requests handled by each employee.</li> </ul>
<b>Q2 – Target Persona/Decision Maker?</b>	<ul style="list-style-type: none"> <li>▪ Customer Service Manager</li> </ul>
<b>Q3 – What is the Decision to be made?</b>	<ul style="list-style-type: none"> <li>▪ The Customer Service team determines which employee to promote.</li> <li>▪ The decision is based on the number of service requests for each employee.</li> </ul>
<b>Q4 – What Data is required to make the Decision?</b>	<ul style="list-style-type: none"> <li>▪ The data required to make decision includes employee name and number of service request.</li> </ul>
<b>Q5 – WHAT TABLES &amp; COLUMNS Contain the Data Identified in Q4 and what Query Components may be involved in creating the SELECT STATEMENT?</b>	<ul style="list-style-type: none"> <li>▪ The following Table and columns would be used: <ul style="list-style-type: none"> <li>o Employee_ProfG_FP – FirstName and LastName are found in this table.</li> <li>o ServiceRequest_ProfG_FP – ServiceRequestID are found in this table.</li> </ul> </li> <li>▪ Using a SELECT, JOIN, COUNT statement to get the data needed.</li> </ul>

- ❖ Derived Query for Business Report #12:

```

SELECT
    E.FirstName,
    E.LastName,
    COUNT(SR.ServiceRequestID) AS NumberOfServiceRequests
FROM
    Employee_ProfG_FP E
JOIN
    ServiceRequest_ProfG_FP SR ON E.EmployeeID = SR.EmployeeID
GROUP BY
    E.EmployeeID, E.FirstName, E.LastName
ORDER BY
    COUNT(SR.ServiceRequestID) DESC;
  
```

- ❖ Data that currently reside in the Tables being queried by Business Report #12:

select \* from Employee\_ProfG\_FP;

Result Grid											Filter Rows:	Edit:     Export/Import:   Wrap Cell Content:	Print
EmployeeID	FirstName	LastName	AddressLine1	AddressLine2	City	State	ZipCode	ContactNumber	Email				
1	Elka	Ikins	9712 Kenwood Alley	18th Floor	Carson City	Nevada	89714	654-269-4247	eikins0@webs.com				
2	Tod	Neve	031 Kingsford Center	Apt 375	San Antonio	Texas	78210	801-654-4791	tneve1@nsw.gov.au				
3	Carmelia	Luetchford	10 Jay Terrace	Room 141	Tampa	Florida	33673	739-116-2573	duetchford2@joomla.org				
4	Manny	Masters	8 Scott Street	Room 368	Sacramento	California	94250	263-893-0479	mmasters3@imdb.com				
5	Camey	Clemente	9536 Debs Avenue	2nd Floor	Peoria	Illinois	61614	640-856-3927	cclemente4@myspace.com				
6	Saraann	Skoggins	09 Sunbrook Street	Apt 1769	Shawnee Mission	Kansas	66286	538-987-9228	sskoggins5@whitehouse.gov				
7	Winfred	Whitechurch	725 Summer Ridge Trail	Room 1817	Birmingham	Alabama	35279	737-296-7174	wwhitechurch6@ft.com				
8	Englebert	Slocombe	749 Graedel Park	PO Box 82857	Austin	Texas	78726	258-889-5090	eslocombe7@fastcompany.co				
9	Vladimir	Francescoccio	923 Main Road	Room 1867	Omaha	Nebraska	68134	190-658-1761	vfrancescoccio8@plala.or.jp				
10	Glenine	Jeal	592 Jackson Pass	PO Box 17670	Bakersfield	California	93381	803-740-5390	gjeal9@alibaba.com				
11	Hi	Pavlenko	6727 Heffernan Street	Suite 33	Los Angeles	California	90055	533-798-5900	hpavlenko@e-recht24.de				
12	Gifford	Gerge	02 Hoffman Pass	3rd Floor	Anchorage	Alaska	99599	217-790-3772	ggergeb@123-reg.co.uk				
13	Rasla	Arnould	712 Cardinal Avenue	PO Box 19201	Houston	Texas	77288	732-342-6313	rarnouldc@digg.com				
14	Thedrick	Foulser	545 Swallow Terrace	Suite 5	Honolulu	Hawaii	96850	456-737-0675	tfoulserd@opensource.org				
15	Ryun	Antczak	9318 Summerview Trail	Suite 63	Portsmouth	New Hampshire	3804	865-458-9521	rantczake@networksolutions.c				
16	Joshua	Hyder	87 Elgar Circle	Room 1263	Washington	District of C...	20566	351-472-3699	jhyderf@abc.net.au				
17	Juline	Goodings	59 Hanson Place	Apt 672	Los Angeles	California	90060	834-299-9698	jgoodingsg@wix.com				
18	My	Robilar	6057 Pleasure Pass	Apt 671	El Paso	Texas	79977	514-999-8294	mrobilarth@spiegel.de				
19	Berkley	Peto	48443 Spaight Road	15th Floor	Pasadena	California	91125	371-970-6449	bpetoi@huffingtonpost.com				
20	Carita	Stenyng	687 Hudson Plaza	Room 1404	Albany	New York	12255	799-394-0438	cstenyngj@blogtalkradio.com				
21	Victor	Borrie	11611 Independence ...	Suite 12	Evansville	Indiana	47705	774-942-3340	vborriek@reference.com				
22	Corbin	Brafferton	1 Jay Way	3rd Floor	Tucson	Arizona	85754	415-933-0260	cbraffertonl@ehow.com				
23	Galina	Jovicic	8496 Dakota Center	Suite 17	Minneapolis	Minnesota	55480	319-344-8484	gjovicim@surveymonkey.com				
24	Tandie	Capp	2221 Sheridan Drive	Suite 45	South Bend	Indiana	46614	927-247-6331	tcappn@yahoo.com				
25	Charita	Ansell	6186 Surrey Way	Apt 1993	Anaheim	California	92812	259-451-3413	cansello@wix.com				
26	Rory	Dyment	336 Elka Park	5th Floor	San Diego	California	92191	817-460-1089	rdymentp@blogtalkradio.com				
27	Jermaine	Brownbridge	4862 Anderson Point	Room 723	Long Beach	California	90810	945-260-7672	jbrownbridgeq@blogs.com				
28	Luis	Kane	9284 Westridge Junction	Suite 11	Topeka	Kansas	66699	397-227-9441	lkaner@bbb.org				
29	Val	Driffe	84 Knutson Crossing	Room 784	Englewood	Colorado	80150	649-335-2040	vdriffes@slideshare.net				
30	Barton	Giorio	3 Valley Edge Street	Room 82	Saint Cloud	Minnesota	56398	605-167-1993	bgioriot@biglobe.ne.jp				

ContactNumber	Email	Position	Salary	BirthDate	HireDate	DepartmentID	TrainingID	LoginID
654-269-4247	eikins0@webs.com	Sales Support Specialist	45672.70	1990-06-23	2002-11-08	2	1	1
801-654-4791	tneve1@nsw.gov.au	Customer Service Representative	65650.49	1992-11-03	2015-09-19	4	1	2
739-116-2573	duetchford2@joomla.org	Customer Service Representative	51082.07	2002-05-22	2017-03-27	4	5	3
263-893-0479	mmasters3@imdb.com	Customer Service Representative	52626.74	1999-01-05	2011-05-13	4	5	4
640-856-3927	cclemente4@myspace.com	Marketing Manager	75999.20	1994-06-03	2011-09-25	5	6	5
538-987-9228	sskoggins5@whitehouse.gov	Marketing Coordinator	69351.45	1999-12-28	2012-03-15	5	6	6
737-296-7174	wwhitechurch6@ft.com	Senior Sales	52555.82	2002-04-11	2007-09-26	2	6	7
258-889-5090	eslocombe7@fastcompany.com	Inventory Manager	78055.82	1996-07-15	2022-11-09	3	3	8
190-658-1761	vfrancescoccio8@plala.or.jp	Merchandising Manager	73804.93	2000-12-19	2008-03-03	3	2	9
803-740-5390	gjeal9@alibaba.com	Stock Control Specialist	59921.50	2001-08-11	2006-01-18	3	2	10
533-798-5900	hpavlenko@e-recht24.de	HR Manager	69400.64	1992-04-19	2002-02-01	1	6	11
217-790-3772	ggergeb@123-reg.co.uk	HR Manager	67655.34	1992-02-23	2014-08-03	1	6	12
732-342-6313	rarnouldc@digg.com	Training Coordinator	37842.86	2001-03-25	2014-03-15	6	6	13
456-737-0675	tfoulserd@opensource.org	Recruiter	33291.88	2001-05-02	2012-12-21	1	6	14
865-458-9521	rantczake@networksolutions.c...	Senior Sales Associate	56971.26	2001-03-30	2004-07-19	2	2	15
351-472-3699	jhyderf@abc.net.au	Recruiter	51808.27	1997-11-06	2009-11-04	1	6	16
834-299-9698	jgoodingsg@wix.com	Recruiter	53808.67	1999-12-04	2004-11-07	1	6	17
514-999-8294	mrobilarth@spiegel.de	Senior Sales	51177.13	1996-12-24	2020-02-01	2	2	18
371-970-6449	bpeto1@huffingtonpost.com	Senior Sales	49552.06	1993-07-09	2005-11-18	2	6	19
799-394-0438	cstenyngj@blogtalkradio.com	Sales Manager	46847.34	1993-08-05	2015-05-12	2	6	20
774-942-3340	vborriek@reference.com	Sales Manager	46273.28	1997-03-27	2022-11-12	2	3	21
415-933-0260	cbraffertonl@ehow.com	Sales Support Specialist	46273.28	1994-06-24	2003-06-29	2	2	22
319-344-8484	gjovicim@surveymonkey.com	Sales Support Specialist	46273.28	1991-07-06	2003-12-09	2	4	23
927-247-6331	tcappn@yahoo.com	Sales Support Specialist	46273.28	2001-10-20	2016-10-14	2	2	24
259-451-3413	cansello@wix.com	Sales Support Specialist	37398.69	1991-08-04	2002-11-27	2	4	25
817-460-1089	rdymentp@blogtalkradio.com	Sales Support Specialist	39398.69	1992-09-07	2021-12-05	2	1	26
945-260-7672	jbrownbridgeq@blogs.com	Sales Support Specialist	46273.28	2000-12-03	2006-02-27	2	4	27
397-227-9441	lkaner@bbb.org	Senior Sales	52555.82	1997-04-12	2023-09-05	2	6	28
649-335-2040	vdriffes@slideshare.net	Senior Sales	53545.82	1990-04-05	2013-06-22	2	6	29
605-167-1993	bgioriot@biglobe.ne.jp	Recruiting Manager	60934.80	2001-11-25	2014-08-29	1	6	30

**select \* from ServiceRequest\_ProfG\_FP;**

	ServiceRequestID	CustomerID	EmployeeID	RequestDate	RequestType	Description	Status	Rating
▶	1	12	2	2023-01-10	Product Inquiry	Inquiring about the availability of new clothing arrivals	Open	5
	2	8	2	2023-01-15	Order Modification	Requested to add an additional item to the recent order	In Progress	3
	3	5	2	2023-02-02	Return Request	Initiating the return process for a defective product	Completed	4
	4	17	2	2023-02-18	Technical Support	Experiencing issues with the online account login	Resolved	5
	5	23	2	2023-11-24	Product Inquiry	Seeking information about the specifications of a laptop	Open	3
	6	14	2	2023-11-24	Order Status	Inquiring about the current status of a pending order	In Progress	3
	7	19	2	2023-11-24	Return Request	Requesting a return due to a change in preference	Completed	3
	8	3	3	2023-11-24	Technical Support	Encountering difficulties in processing an online payment	Resolved	5
	9	27	2	2023-11-24	Product Inquiry	Asking about the available discounts on selected items	Open	3
	10	10	3	2023-11-24	Order Modification	Modifying the shipping address for a pending order	In Progress	3
	11	24	3	2023-11-24	Return Request	Initiating a return for a damaged product received	Completed	2
	12	1	3	2023-11-24	Technical Support	Seeking assistance with navigating the online store	Resolved	5
	13	18	3	2023-11-24	Product Inquiry	Inquiring about the return policy for electronic gadgets	Open	5
	14	9	3	2023-11-24	Order Status	Checking the status of a recently placed order	In Progress	4
	15	16	3	2023-11-24	Return Request	Requesting a return due to size-related issues with clothing	Completed	4
	16	22	3	2023-11-24	Technical Support	Experiencing difficulties in applying a discount code	Resolved	5
	17	11	3	2023-11-24	Product Inquiry	Seeking information on the warranty of a purchased appliance	Open	5
	18	6	3	2023-11-24	Order Modification	Adding a gift message to a pending order	In Progress	5
	19	28	3	2023-11-24	Return Request	Initiating a return for an incorrect item received	Completed	3
	20	13	3	2023-11-10	Technical Support	Troubleshooting issues with accessing the online account	Resolved	5
	21	25	3	2023-11-25	Product Inquiry	Inquiring about the availability of specific shoe sizes	Open	5
	22	4	3	2023-12-12	Order Status	Checking the estimated delivery time for an order	In Progress	3
	23	20	4	2023-12-11	Return Request	Requesting a return due to a change in mind about the purchase	Completed	2
	24	7	4	2023-01-15	Technical Support	Seeking assistance in recovering a forgotten password	Resolved	5
	25	30	4	2023-01-30	Product Inquiry	Asking for recommendations on the latest home appliances	Open	5
	26	2	4	2023-02-15	Order Modification	Modifying the quantity of items in a pending order	In Progress	5
	27	29	4	2023-03-02	Return Request	Initiating a return for a defective electronic device	Completed	4
	28	21	4	2023-03-18	Technical Support	Experiencing issues with the checkout process	Resolved	5
	29	5	4	2023-04-04	Product Inquiry	Inquiring about the availability of specific grocery items	Open	5
	30	26	4	2023-04-20	Order Status	Checking the status of a backordered product	In Progress	5
◀	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

❖ Results of execution of Business Report #12 Query:

	FirstName	LastName	NumberOfServiceRequests
▶	Carmelia	Luetchford	14
	Tod	Neve	8
	Manny	Masters	8

## Business Report #13 – Decision to Target Product by Number of Product Sold for Additional Purchases

- ❖ Report goals, objectives & decisions:

GUIDELINES	ANSWER
<b>Q1 – What is the Business Scenario &amp; Objectives?</b>	<ul style="list-style-type: none"> <li>▪ The product management team wants to identify the top-selling product before making additional purchases.</li> </ul>
<b>Q2 – Target Persona/Decision Maker?</b>	<ul style="list-style-type: none"> <li>▪ Product Management team</li> </ul>
<b>Q3 – What is the Decision to be made?</b>	<ul style="list-style-type: none"> <li>▪ The product management team determines which product to make additional purchases.</li> <li>▪ The decision is based on the number of product sold.</li> </ul>
<b>Q4 – What Data is required to make the Decision?</b>	<ul style="list-style-type: none"> <li>▪ The data required to make decision includes product name and number of product sold.</li> </ul>
<b>Q5 – WHAT TABLES &amp; COLUMNS Contain the Data Identified in Q4 and what Query Components may be involved in creating the SELECT STATEMENT?</b>	<ul style="list-style-type: none"> <li>▪ The following Table and columns would be used: <ul style="list-style-type: none"> <li>o Product_ProfG_FP – ProductID and ProductName are found in this table.</li> <li>o OrderItem_ProfG_FP – ProductID is found in this table.</li> </ul> </li> <li>▪ Using a SELECT, JOIN, COUNT statement to get the data needed.</li> </ul>

- ❖ Derived Query for Business Report #13:

```

SELECT
    P.ProductName,
    COUNT(OI.ProductID) AS NumberOfProductsSold
FROM
    Product_ProfG_FP P
JOIN
    OrderItem_ProfG_FP OI ON P.ProductID = OI.ProductID
GROUP BY
    P.ProductName
ORDER BY
    COUNT(OI.ProductID) DESC;
  
```

- ❖ Data that currently reside in the Tables being queried by Business Report #13:

```
select * from Product_ProfG_FP;
```

	ProductID	ProductName	CategoryID	SupplierID	Price	StockQuantity
▶	100001	T-Shirt	1	4	19.99	150
	100002	Running Shoes	2	4	49.95	100
	100003	Smartphone	3	1	599.99	50
	100004	Coffee Maker	4	2	89.95	30
	100005	Board Game	5	3	29.99	80
	100006	Laptop	3	1	899.99	20
	100007	Desk Chair	6	4	129.95	40
	100008	Sunglasses	7	4	24.99	200
	100009	Backpack	7	4	39.95	120
	100010	Bluetooth Speaker	3	5	59.99	70
	100011	HD TV	3	5	499.99	25
	100012	Tablet	3	5	349.99	60
	100013	Microwave Oven	4	2	129.95	35
	100014	Running Shorts	1	4	14.99	200
	100015	Refrigerator	4	2	899.99	15
	100016	Office Desk	6	4	199.95	50
	100017	Camera	3	1	449.99	40
	100018	Printer	3	1	79.95	30
	100019	Gaming Console	3	1	299.99	45
	100020	Yoga Mat	8	4	19.95	100
	100021	Blender	4	6	39.99	60
	100022	Watch	7	1	129.99	80
	100023	Wireless Earbuds	3	1	79.95	90
	100024	Bookshelf	6	5	79.99	25
	100025	Headphones	3	1	129.95	40
	100026	Gaming Chair	6	4	179.99	30
	100027	Backyard Grill	9	6	249.95	15
	100028	Running Jacket	1	6	34.99	120
	100029	Sofa	6	6	399.99	20
	100030	Home Theater Sy...	3	5	299.95	30
▲	HULL	HULL	HULL	HULL	HULL	HULL

select \* from OrderItem\_ProfG\_FP;

	OrderItemID	OrderID	ProductID	Quantity	UnitPrice	Subtotal
▶	1	1001	100001	2	19.99	39.98
	2	1001	100014	4	14.99	59.96
	3	1002	100001	3	19.99	59.97
	4	1003	100001	1	19.99	19.99
	5	1004	100001	2	19.99	39.98
	6	1005	100001	1	19.99	19.99
	7	1006	100001	4	19.99	79.96
	8	1007	100008	1	24.99	24.99
	9	1008	100009	2	39.95	79.90
	10	1009	100010	1	59.99	59.99
	11	1010	100011	3	499.99	1499.97
	12	1011	100012	1	349.99	349.99
	13	1012	100013	2	129.95	259.90
	14	1013	100014	1	14.99	14.99
	15	1014	100015	1	899.99	899.99
	16	1015	100016	2	199.95	399.90
	17	1016	100017	2	449.99	899.98
	18	1017	100018	1	79.95	79.95
	19	1018	100019	3	299.99	899.97
	20	1019	100020	1	19.95	19.95
	21	1020	100021	2	39.99	79.98
	22	1021	100022	1	129.99	129.99
	23	1022	100023	4	79.95	319.80
	24	1023	100024	1	79.99	79.99
	25	1024	100025	2	129.95	259.90
	26	1025	100026	1	179.99	179.99
	27	1026	100027	3	249.95	749.85
	28	1027	100028	1	34.99	34.99
	29	1028	100029	2	399.99	799.98
	30	1029	100030	1	299.95	299.95
	31	1030	100014	1	14.99	14.99
*	HULL	HULL	HULL	HULL	HULL	HULL

- ❖ Results of execution of Business Report #13 Query:

	ProductName	NumberOfProductsSold
▶	T-Shirt	6
	Running Shorts	3
	Gaming Console	1
	Home Theater System	1
	Sofa	1
	Running Jacket	1
	Backyard Grill	1
	Gaming Chair	1
	Headphones	1
	Bookshelf	1
	Wireless Earbuds	1
	Watch	1
	Blender	1
	Yoga Mat	1
	Printer	1
	Camera	1
	Office Desk	1
	Refrigerator	1
	Microwave Oven	1
	Tablet	1
	HD TV	1
	Bluetooth Speaker	1
	Backpack	1
	Sunglasses	1

## Business Report #14 – Decision to Target Product by Stock Quantity for New Procurement

- ❖ Report goals, objectives & decisions:

GUIDELINES	ANSWER
<b>Q1 – What is the Business Scenario &amp; Objectives?</b>	<ul style="list-style-type: none"> <li>▪ The product management team is gearing up for a new procurement initiative, aiming to identify items with low inventory levels for purchase. All Products Stock below 30 is defined as low Stock.</li> </ul>
<b>Q2 – Target Persona/Decision Maker?</b>	<ul style="list-style-type: none"> <li>▪ Product Management team</li> </ul>
<b>Q3 – What is the Decision to be made?</b>	<ul style="list-style-type: none"> <li>▪ The product management team determines which product for new Procurement.</li> <li>▪ The decision is based on the Stock Quantity.</li> </ul>
<b>Q4 – What Data is required to make the Decision?</b>	<ul style="list-style-type: none"> <li>▪ The data required to make decision includes ProductID, Product Name and Stock Quantity.</li> </ul>
<b>Q5 – WHAT TABLES &amp; COLUMNS Contain the Data Identified in Q4 and what Query Components may be involved in creating the SELECT STATEMENT?</b>	<ul style="list-style-type: none"> <li>▪ The following Table and columns would be used: <ul style="list-style-type: none"> <li>o Product_ProfG_FP – ProductID and ProductName and Stock Quantity are found in this table.</li> </ul> </li> <li>▪ Using a SELECT, WHERE clause statement to get the data needed.</li> </ul>

- ❖ Derived Query for Business Report #14:

```
SELECT ProductID, ProductName, StockQuantity
FROM Product_ProfG_FP
WHERE StockQuantity < 30;
```

- ❖ Data that currently reside in the Tables being queried by Business Report #14:

```
select * from Product_ProfG_FP;
```

	ProductID	ProductName	CategoryID	SupplierID	Price	StockQuantity
▶	100001	T-Shirt	1	4	19.99	150
	100002	Running Shoes	2	4	49.95	100
	100003	Smartphone	3	1	599.99	50
	100004	Coffee Maker	4	2	89.95	30
	100005	Board Game	5	3	29.99	80
	100006	Laptop	3	1	899.99	20
	100007	Desk Chair	6	4	129.95	40
	100008	Sunglasses	7	4	24.99	200
	100009	Backpack	7	4	39.95	120
	100010	Bluetooth Speaker	3	5	59.99	70
	100011	HD TV	3	5	499.99	25
	100012	Tablet	3	5	349.99	60
	100013	Microwave Oven	4	2	129.95	35
	100014	Running Shorts	1	4	14.99	200
	100015	Refrigerator	4	2	899.99	15
	100016	Office Desk	6	4	199.95	50
	100017	Camera	3	1	449.99	40
	100018	Printer	3	1	79.95	30
	100019	Gaming Console	3	1	299.99	45
	100020	Yoga Mat	8	4	19.95	100
	100021	Blender	4	6	39.99	60
	100022	Watch	7	1	129.99	80
	100023	Wireless Earbuds	3	1	79.95	90
	100024	Bookshelf	6	5	79.99	25
	100025	Headphones	3	1	129.95	40
	100026	Gaming Chair	6	4	179.99	30
	100027	Backyard Grill	9	6	249.95	15
	100028	Running Jacket	1	6	34.99	120
	100029	Sofa	6	6	399.99	20
	100030	Home Theater Sy...	3	5	299.95	30
*	NUL	NUL	NUL	NUL	NUL	NUL

❖ Results of execution of Business Report #14 Query:

Result Grid			Filter Rows:
	ProductID	ProductName	StockQuantity
▶	100006	Laptop	20
	100011	HD TV	25
	100015	Refrigerator	15
	100024	Bookshelf	25
	100027	Backyard Grill	15
	100029	Sofa	20
*	NUL	NUL	NUL

## Business Report #15 – Decision to Target Product by Number of Returns for Inventory Report Analysis

- ❖ Report goals, objectives & decisions:

GUIDELINES	ANSWER
<b>Q1 – What is the Business Scenario &amp; Objectives?</b>	<ul style="list-style-type: none"> <li>▪ The product management team wants to identify which product has the highest number of returns?</li> </ul>
<b>Q2 – Target Persona/Decision Maker?</b>	<ul style="list-style-type: none"> <li>▪ Product Management team</li> </ul>
<b>Q3 – What is the Decision to be made?</b>	<ul style="list-style-type: none"> <li>▪ The product management team determines which the highest number of returns.</li> <li>▪ The decision is based on the number of returns.</li> </ul>
<b>Q4 – What Data is required to make the Decision?</b>	<ul style="list-style-type: none"> <li>▪ The data required to make decision includes product name and the number of returns for each product.</li> </ul>
<b>Q5 – WHAT TABLES &amp; COLUMNS Contain the Data Identified in Q4 and what Query Components may be involved in creating the SELECT STATEMENT?</b>	<ul style="list-style-type: none"> <li>▪ The following Table and columns would be used:           <ul style="list-style-type: none"> <li>o Product_ProfG_FP – ProductID and ProductName are found in this table.</li> <li>o SalesReturn_ProfG_FP – ReturnID and ProductID is found in this table.</li> </ul> </li> <li>▪ Using a SELECT, JOIN, COUNT statement to get the data needed.</li> </ul>

- ❖ Derived Query for Business Report #15:

```

SELECT P.ProductName, COUNT(SR.ReturnID) AS NumberOfReturns
FROM Product_ProfG_FP P
LEFT JOIN SalesReturn_ProfG_FP SR ON P.ProductID = SR.ProductID
GROUP BY P.ProductName
ORDER BY COUNT(SR.ReturnID) DESC;
```

- ❖ Data that currently reside in the Tables being queried by Business Report #15:

```

select * from SalesReturn_ProfG_FP;
```

	ReturnID	OrderID	ProductID	ReturnDate	ReturnReason	RefundAmount
▶	1	1001	100014	2023-02-10	Defective	14.99
	2	1002	100001	2023-02-23	Wrong Size	19.99
	3	1003	100001	2023-03-15	Not as Described	19.99
	4	1004	100001	2023-04-07	Damaged in Transit	19.99
	5	1005	100001	2023-05-20	Changed Mind	19.99
	6	1006	100001	2023-05-20	Defective	19.99
	7	1007	100008	2023-05-20	Wrong Color	24.99
	8	1008	100009	2023-05-20	Not Satisfied	39.95
	9	1009	100010	2023-05-20	Wrong Item	59.99
	10	1010	100011	2023-05-20	Defective	499.99
	11	1011	100012	2023-11-28	Not as Expected	349.99
	12	1012	100013	2023-11-28	Damaged in Transit	129.95
	13	1013	100014	2023-11-28	Defective	14.99
	14	1014	100015	2023-11-28	Wrong Size	899.99
	15	1015	100016	2023-11-28	Not as Described	199.95
	16	1016	100017	2023-11-28	Defective	449.99
	17	1017	100018	2023-11-28	Wrong Color	79.95
	18	1018	100019	2023-11-28	Not Satisfied	299.99
	19	1019	100020	2023-11-28	Wrong Item	19.95
	20	1020	100021	2023-11-28	Defective	39.99
	21	1021	100022	2023-11-30	Not as Expected	129.99
	22	1022	100023	2023-11-30	Damaged in Transit	79.95
	23	1023	100024	2023-11-30	Defective	79.99
	24	1024	100025	2023-11-30	Wrong Size	129.95
	25	1025	100026	2023-11-30	Not as Described	179.99
	26	1026	100027	2023-12-05	Defective	249.95
	27	1016	100028	2023-12-05	Wrong Color	19.99
	28	1018	100029	2023-12-05	Not Satisfied	299.99
	29	1026	100030	2023-12-05	Wrong Item	249.95
	30	1030	100014	2023-12-05	Defective	14.99
*		NULL	NULL	NULL	NULL	NULL

select \* from Product\_ProfG\_FP;

	ProductID	ProductName	CategoryID	SupplierID	Price	StockQuantity
▶	100001	T-Shirt	1	4	19.99	150
	100002	Running Shoes	2	4	49.95	100
	100003	Smartphone	3	1	599.99	50
	100004	Coffee Maker	4	2	89.95	30
	100005	Board Game	5	3	29.99	80
	100006	Laptop	3	1	899.99	20
	100007	Desk Chair	6	4	129.95	40
	100008	Sunglasses	7	4	24.99	200
	100009	Backpack	7	4	39.95	120
	100010	Bluetooth Speaker	3	5	59.99	70
	100011	HD TV	3	5	499.99	25
	100012	Tablet	3	5	349.99	60
	100013	Microwave Oven	4	2	129.95	35
	100014	Running Shorts	1	4	14.99	200
	100015	Refrigerator	4	2	899.99	15
	100016	Office Desk	6	4	199.95	50
	100017	Camera	3	1	449.99	40
	100018	Printer	3	1	79.95	30
	100019	Gaming Console	3	1	299.99	45
	100020	Yoga Mat	8	4	19.95	100
	100021	Blender	4	6	39.99	60
	100022	Watch	7	1	129.99	80
	100023	Wireless Earbuds	3	1	79.95	90
	100024	Bookshelf	6	5	79.99	25
	100025	Headphones	3	1	129.95	40
	100026	Gaming Chair	6	4	179.99	30
	100027	Backyard Grill	9	6	249.95	15
	100028	Running Jacket	1	6	34.99	120
	100029	Sofa	6	6	399.99	20
	100030	Home Theater Sy...	3	5	299.95	30
*	NULL	NULL	NULL	NULL	NULL	NULL

❖ Results of execution of Business Report #15 Query:

	ProductName	NumberOfReturns
▶	T-Shirt	5
	Running Shorts	3
	Office Desk	1
	Home Theater System	1
	Sofa	1
	Running Jacket	1
	Backyard Grill	1
	Gaming Chair	1
	Headphones	1
	Bookshelf	1
	Wireless Earbuds	1
	Watch	1
	Blender	1
	Yoga Mat	1
	Gaming Console	1
	Printer	1
	Camera	1
	Refrigerator	1
	Microwave Oven	1
	Tablet	1
	HD TV	1
	Bluetooth Speaker	1
	Backpack	1
	Sunglasses	1
	Desk Chair	0
	Laptop	0
	Board Game	0
	Coffee Maker	0
	Smartphone	0
	Running Shoes	0

## Triggers

- In this section, will write 7 triggers to enforce the business rules.
  - Two of the triggers for delete
  - Two of the triggers for insert
  - Two of the triggers for update
  - One of the trigger for delete/insert/update

### ServiceRequest\_Trigger - Delete Trigger #1:

- **Business Rule:** Prevent the deletion of a service request with a pending status.
- Below is the code to enforce this business rule:

```
DELIMITER //
CREATE TRIGGER Before_ServiceRequest_Deletion_Trigger
BEFORE DELETE ON ServiceRequest_ProfG_FP
FOR EACH ROW
BEGIN
    -- Check if the service request has a pending status
    IF OLD.Status = 'In Progress' THEN
        SIGNAL SQLSTATE '45000'
        SET MESSAGE_TEXT = 'Cannot delete service request with pending status';
    END IF;
END //
DELIMITER ;
```

### Shipment\_Trigger – Delete Trigger #2:

- **Business Rule:** Prevent the deletion of the shipment table with 'shipped' or 'In Transit' shipment Status.
- Below is the code to enforce this business rule:

```
DELIMITER //
CREATE TRIGGER before_shipment_delete
BEFORE DELETE ON Shipment_ProfG_FP
FOR EACH ROW
BEGIN
    IF (SELECT COUNT(*) FROM Shipment_ProfG_FP WHERE ShipmentStatus = 'shipped' OR
ShipmentStatus= 'In transit') > 0 THEN
        SIGNAL SQLSTATE '45000'
        SET MESSAGE_TEXT = 'Package is not delivered. Deletion not allowed.';
    END IF;
END //
DELIMITER ;
```

#### **Employee\_Trigger - Insert Trigger #1:**

- **Business Rule:** Ensure that the salary of a new employee is within an acceptable range.
- Below is the code to enforce this business rule:

```
DELIMITER //
CREATE TRIGGER before_employee_insert
BEFORE INSERT ON Employee_ProfG_FP
FOR EACH ROW
BEGIN
    IF NEW.Salary < 30000 OR NEW.Salary > 100000 THEN
        SIGNAL SQLSTATE '45000'
        SET MESSAGE_TEXT = 'Employee salary must be between $30,000 and $100,000';
    END IF;
END //
DELIMITER ;
```

#### **Order\_Trigger - Insert Trigger #2:**

- **Business Rule:** Set the order date to the current date if not provided during insertion.
- Below is the code to enforce this business rule:

```
DELIMITER //
CREATE TRIGGER before_order_insert
BEFORE INSERT ON Order_ProfG_FP
FOR EACH ROW
BEGIN
    IF NEW.OrderDate IS NULL THEN
        SET NEW.OrderDate = CURDATE();
    END IF;
END //
DELIMITER ;
```

### **ProductInventory\_Trigger - Update Trigger #1:**

- **Business Rule:** Log Changes Before Updating Product Information for future forecasting and price comparison.
- Below is the code to enforce this business rule:

```
DELIMITER //
CREATE TRIGGER Before_Update_Product_Trigger
BEFORE UPDATE ON Product_ProfG_FP
FOR EACH ROW
BEGIN
    -- Log the changes into a before-update log table (ProductBeforeUpdateLog_ProfG_FP)
    INSERT INTO ProductBeforeUpdateLog_ProfG_FP (ProductId, OldProductName, OldPrice,
OldStockQuantity, UpdateTimestamp)
    VALUES (OLD.ProductId, OLD.ProductName, OLD.Price, OLD.StockQuantity, NOW());
END //
DELIMITER ;
```

### **Advertisement\_Trigger - Update Trigger #2:**

- **Business Rule:** Restrict updating the ad content once the advertisement is live.
- Below is the code to enforce this business rule:

```
DELIMITER //
CREATE TRIGGER before_advertisement_update
BEFORE UPDATE ON Advertisement_ProfG_FP
FOR EACH ROW
BEGIN
    IF NEW.AdDate < CURDATE() THEN
        SIGNAL SQLSTATE '45000'
        SET MESSAGE_TEXT = 'Live advertisements cannot be updated.';
    END IF;
END //
DELIMITER ;
```

### **OrderItem\_Trigger1 - Delete/Insert/Update Trigger:**

- **Business Rule:** Log changes to order items (delete/insert/update) for auditing purposes.
- Below is the code to enforce this business rule:

```
DELIMITER //
CREATE TRIGGER after_orderitem_change
AFTER INSERT, UPDATE, DELETE ON OrderItem_ProfG_FP
FOR EACH ROW
BEGIN
    -- Log the changes into the audit log table (OrderItemAuditLog_ProfG_FP)
    INSERT INTO OrderItemAuditLog_ProfG_FP (ActionType, OrderItemID, ProductID, Quantity,
    UnitPrice, Subtotal, Timestamp)
    VALUES (
        CASE
            WHEN NEW.OrderItemID IS NOT NULL AND OLD.OrderItemID IS NULL THEN 'INSERT'
            WHEN NEW.OrderItemID IS NOT NULL AND OLD.OrderItemID IS NOT NULL THEN 'UPDATE'
            WHEN NEW.OrderItemID IS NULL AND OLD.OrderItemID IS NOT NULL THEN 'DELETE'
        END,
        COALESCE(NEW.OrderItemID, OLD.OrderItemID),
        COALESCE(NEW.ProductID, OLD.ProductID),
        COALESCE(NEW.Quantity, OLD.Quantity),
        COALESCE(NEW.UnitPrice, OLD.UnitPrice),
        COALESCE(NEW.Subtotal, OLD.Subtotal),
        NOW()
    );
END //
DELIMITER ;
```

## Stored Procedures Business Rule Enforcement

### Stored Procedure #1 for Checking Stock Status:

**Business Rule:** The business rule enforced by the provided stored procedure CheckStockStatus is to monitor and report the stock status of a product.

- Objective: To check and report the stock status of a product based on its quantity in the inventory.
- Condition: If the stock quantity of a product falls below a certain threshold (30 units in this case), it is considered "low in stock."
- Action: If the stock quantity is below the threshold, the system generates a message indicating that the product is low in stock. Otherwise, it generates a message indicating that the product is in stock.

### Query For Stored Procedure #1:

```
DELIMITER //
CREATE PROCEDURE CheckStockStatus(IN p_ProductID INT)
BEGIN
    DECLARE stockQuantity INT;

    -- Get the stock quantity for the given product ID
    SELECT QuantityInStock INTO stockQuantity
    FROM ProductInventory_ProfG_FP
    WHERE ProductID = p_ProductID;

    -- Check the stock status and return a message
    IF stockQuantity < 30 THEN
        SELECT CONCAT('Product with ID ', p_ProductID, ' is low in stock.') AS StatusMessage;
    ELSE
        SELECT CONCAT('Product with ID ', p_ProductID, ' is in stock.') AS StatusMessage;
    END IF;
END //
DELIMITER ;
```

### Results of execution of Stored Procedure #1 Query:

```
CALL CheckStockStatus(100006);
```

StatusMessage
Product with ID 100006 is low in stock.

```
CALL CheckStockStatus(100001);
```

	StatusMessage
▶	Product with ID 100001 is in stock.

## Stored Procedure #2 for Updating Resolved Service Request Status:

**Business Rule:** This business rule ensures that service requests can be marked as resolved in the system, providing a clear indication of their status. The subsequent retrieval of the updated information allows for auditing and tracking of resolved service requests.

- Objective: To mark a service request as "Resolved" and retrieve the updated information for auditing purposes.
- Condition: When the stored procedure ResolvedServiceRequestProcedure is called with a specific service request ID.
- Action: The procedure updates the Status column in the ServiceRequest\_ProfG\_FP table, marking the corresponding service request as "Resolved." It then retrieves and displays all information for the resolved service request.

### Query For Stored Procedure #2:

```
DELIMITER //
CREATE PROCEDURE ResolvedServiceRequestProcedure(IN requestID INT)
BEGIN

    UPDATE ServiceRequest_ProfG_FP
    SET Status = 'Resolved'
    WHERE ServiceRequestID = requestID;

    SELECT * FROM ServiceRequest_ProfG_FP
    WHERE ServiceRequestID = requestID;

END //
DELIMITER ;
```

### Results of execution of Stored Procedure #2 Query:

```
-- Before calling the stored procedure
SELECT * FROM ServiceRequest_ProfG_FP
WHERE ServiceRequestID = 17;
```

	ServiceRequestID	CustomerID	EmployeeID	RequestDate	RequestType	Description	Status	Rating
▶	17	11	3	2023-11-24	Product Inquiry	Seeking information on the warranty of a purchased appliance	Open	5
*	HULL	HULL	HULL	HULL	HULL	HULL	HULL	HULL

```
-- After calling the stored procedure
CALL ResolvedServiceRequestProcedure(17);
```

	ServiceRequestID	CustomerID	EmployeeID	RequestDate	RequestType	Description	Status	Rating
▶	17	11	3	2023-11-24	Product Inquiry	Seeking information on the warranty of a purchased appliance	Resolved	5

### Stored Procedure #3 for Updating Product Stock After an Order is Placed:

**Business Rule:** This business rule ensures that the stock quantity of a product is adjusted after a sale, reflecting the reduction in available stock. It helps maintain accurate inventory levels for each product in the system.

- Objective: To update the stock quantity of a product after a certain quantity has been sold.
- Condition: When the stored procedure UpdateSoldProductStock is called with a specific product ID and the quantity sold.
- Action: The procedure updates the StockQuantity column in the Product\_ProfG\_FP table, subtracting the specified quantity sold from the current stock quantity for the corresponding product.

### Query For Stored Procedure #3:

```
DELIMITER //
CREATE PROCEDURE UpdateSoldProductStock(IN productID INT, IN quantitySold INT)
BEGIN
    DECLARE originalStock INT;
    DECLARE currentStock INT;
    DECLARE stockUpdateMessage VARCHAR(255);

    -- Retrieve the original StockQuantity using the productID
    SELECT StockQuantity INTO originalStock
    FROM Product_ProfG_FP
    WHERE ProductID = productID
    LIMIT 1;

    -- Update the StockQuantity with the new value
    UPDATE Product_ProfG_FP
    SET StockQuantity = StockQuantity - quantitySold
    WHERE ProductID = productID;

    -- Retrieve the current StockQuantity after the update
    SELECT StockQuantity INTO currentStock
    FROM Product_ProfG_FP
    WHERE ProductID = productID
    LIMIT 1;

    -- Construct the message
    SET stockUpdateMessage = CONCAT('Product ID ', productID, ' - Original Stock: ', originalStock,
                                    ', Current Stock: ', currentStock);

    -- Return the message
```

```
SELECT stockUpdateMessage AS StockUpdateStatement;
END //;
DELIMITER ;
```

#### Results of execution of Stored Procedure #3 Query:

-- Before calling the stored procedure

```
SELECT * FROM Product_ProfG_FP
```

```
WHERE ProductID = 100001;
```

	ProductID	ProductName	CategoryID	SupplierID	Price	StockQuantity
▶	100001	T-Shirt	1	4	19.99	150
*	NULL	NULL	NULL	NULL	NULL	NULL

-- CALL the Stored Procedure

```
CALL UpdateSoldProductStock(100001, 10);
```

	StockUpdateStatement
▶	Product ID 100001 - Original Stock: 150, Current Stock: 140

-- After calling the stored procedure

```
SELECT * FROM Product_ProfG_FP
```

```
WHERE ProductID = 100001;
```

	ProductID	ProductName	CategoryID	SupplierID	Price	StockQuantity
▶	100001	T-Shirt	1	4	19.99	140
*	NULL	NULL	NULL	NULL	NULL	NULL

## Stored Procedure #4 for Returning Customer Information for their Birthday:

This business rule helps in identifying and acknowledging customers with birthdays in a given month, allowing the company to potentially offer promotions or special incentives to celebrate these occasions.

Business Rule:

- Objective: To retrieve customer information and count the number of customers born in a specified birth month.
- Condition: The stored procedure is called with a parameter specifying the birth month.
- Action:
  1. Retrieve customer information (First Name, Last Name, Birth Date, Address, City, State, Zip Code, Country, Email) for customers whose birth month matches the specified parameter.
  2. Count the number of customers born in the specified month.
  3. Display the count along with a message indicating the total number of customers born in the specified month.

## Query For Stored Procedure #3:

```
DELIMITER //
CREATE PROCEDURE GetBirthdayCustomers(IN birthMonth INT)
BEGIN
    -- Declare variables
    DECLARE birthdayCount INT;

    -- Get customer information for the specified birth month
    SELECT FirstName, LastName, BirthDate, AddressLine1, AddressLine2, City, State, ZipCode, Country,
Email
        FROM Customer_ProfG_FP
    WHERE MONTH(BirthDate) = birthMonth;

    -- Count the number of customers born in the specified month
    SELECT COUNT(*) INTO birthdayCount
    FROM Customer_ProfG_FP
    WHERE MONTH(BirthDate) = birthMonth;

    -- Display the count
    SELECT CONCAT('Total customers born in month ', MONTHNAME(STR_TO_DATE(birthMonth, '%m')), ',
is: ', birthdayCount) AS BirthdayCount;
END //
DELIMITER ;
```

**Results of execution of Stored Procedure #3 Query:**

CALL GetBirthdayCustomers(12);

	FirstName	LastName	BirthDate	AddressLine1	AddressLine2	City	State	ZipCode	Country	Email
▶	Olivia	White	1980-12-18	303 Maple St	NULL	Villageville	CA	23456	USA	olivia.white@email.com
▶	Liam	Martinez	1994-12-20	303 Maple St	Suite 606	Villageville	CA	23456	USA	liam.martinez@email.com

	BirthdayCount
▶	Total customers born in month December is: 2

## Optimization (Indexes)

In this section, we will create indexes to enhance performance. Indexing accelerates queries by establishing pointers to the locations where data is stored within a database. It plays a crucial role in improving the efficiency of database queries, particularly when dealing with columns involved in joins and WHERE clauses.

All foreign key columns have been implemented with BTREE indexes, as these columns are frequently accessed through joins and WHERE clauses. The implementation of indexes has optimized performance, especially for columns used frequently in joins and the WHERE clause during searches. Below, you will find the code and results displaying all indexes

**The following are the derived query to implement indexing:**

```
CREATE INDEX idx_fk_CampaignID_Advertisement ON Advertisement_ProfG_FP (CampaignID);
CREATE INDEX idx_fk_TargetID_Campaign ON Campaign_ProfG_FP (TargetID);
CREATE INDEX idx_fk_CustomerID_CreditCard ON CustomerCreditCard_ProfG_FP (CustomerID);
CREATE INDEX idx_fk_DepartmentID ON Employee_ProfG_FP (DepartmentID);
CREATE INDEX idx_fk_LoginID ON Employee_ProfG_FP (LoginID);
CREATE INDEX idx_fk_TrainingID ON Employee_ProfG_FP (TrainingID);
CREATE INDEX idx_fk_EmployeeID_Evaluation ON EmployeeEvaluation_ProfG_FP (EmployeeID);
CREATE INDEX idx_fk_CustomerID_Order ON Order_ProfG_FP (CustomerID);
CREATE INDEX idx_fk_EmployeeID_Order ON Order_ProfG_FP (EmployeeID);
CREATE INDEX idx_fk_OrderID_OrderItem ON OrderItem_ProfG_FP (OrderID);
CREATE INDEX idx_fk_ProductID_OrderItem ON OrderItem_ProfG_FP (ProductID);
CREATE INDEX idx_fk_OrderID_Payment ON Payment_ProfG_FP (OrderID);
CREATE INDEX idx_fk_CategoryID ON Product_ProfG_FP (CategoryID);
CREATE INDEX idx_fk_SupplierID_Product ON Product_ProfG_FP (SupplierID);
CREATE INDEX idx_fk_ProductID_Inventory ON ProductInventory_ProfG_FP (ProductID);
CREATE INDEX idx_fk_WarehouseID ON ProductInventory_ProfG_FP (WarehouseID);
CREATE INDEX idx_fk_OrderID_Return ON SalesReturn_ProfG_FP (OrderID);
CREATE INDEX idx_fk_ProductID_Return ON SalesReturn_ProfG_FP (ProductID);
CREATE INDEX idx_fk_CustomerID_Request ON ServiceRequest_ProfG_FP (CustomerID);
CREATE INDEX idx_fk_EmployeeID_Request ON ServiceRequest_ProfG_FP (EmployeeID);
CREATE INDEX idx_fk_OrderID_Shipment ON Shipment_ProfG_FP (OrderID);
```

**Below is the result showing all indexes successfullyyy implemented:**

```
SELECT table_schema, table_name, index_name, index_type, column_name
FROM information_schema.statistics
WHERE non_unique = 1 AND table_schema = "S23752232";
```

Result Grid | Filter Rows:  Export: Wrap Cell Content:

	TABLE_SCHEMA	TABLE_NAME	INDEX_NAME	INDEX_TYPE	COLUMN_NAME
▶	S23752232	Advertisement_ProfG_FP	idx_fk_CampaignID_Advertisement	BTREE	CampaignID
	S23752232	Campaign_ProfG_FP	idx_fk_TargetID_Campaign	BTREE	TargetID
	S23752232	CustomerCreditCard_ProfG_FP	idx_fk_CustomerID_CreditCard	BTREE	CustomerID
	S23752232	EmployeeEvaluation_ProfG_FP	idx_fk_EmployeeID_Evaluation	BTREE	EmployeeID
	S23752232	Employee_ProfG_FP	idx_fk_DepartmentID	BTREE	DepartmentID
	S23752232	Employee_ProfG_FP	idx_fk_LoginID	BTREE	LoginID
	S23752232	Employee_ProfG_FP	idx_fk_TrainingID	BTREE	TrainingID
	S23752232	OrderItem_ProfG_FP	idx_fk_OrderID_OrderItem	BTREE	OrderID
	S23752232	OrderItem_ProfG_FP	idx_fk_ProductID_OrderItem	BTREE	ProductID
	S23752232	Order_ProfG_FP	idx_fk_CustomerID_Order	BTREE	CustomerID
	S23752232	Order_ProfG_FP	idx_fk_EmployeeID_Order	BTREE	EmployeeID
	S23752232	Payment_ProfG_FP	idx_fk_OrderID_Payment	BTREE	OrderID
	S23752232	ProductInventory_ProfG_FP	idx_fk_ProductID_Inventory	BTREE	ProductID
	S23752232	ProductInventory_ProfG_FP	idx_fk_WarehouseID	BTREE	WarehouseID
	S23752232	Product_ProfG_FP	idx_fk_CategoryID	BTREE	CategoryID
	S23752232	Product_ProfG_FP	idx_fk_SupplierID_Product	BTREE	SupplierID
	S23752232	SalesReturn_ProfG_FP	idx_fk_OrderID_Return	BTREE	OrderID
	S23752232	SalesReturn_ProfG_FP	idx_fk_ProductID_Return	BTREE	ProductID
	S23752232	ServiceRequest_ProfG_FP	idx_fk_CustomerID_Request	BTREE	CustomerID
	S23752232	ServiceRequest_ProfG_FP	idx_fk_EmployeeID_Request	BTREE	EmployeeID
	S23752232	Shipment_ProfG_FP	idx_fk_OrderID_Shipment	BTREE	OrderID

## Data Security (Data Masking)

In this section, create a view to mask client's sensitive data/information such as credit card number, owner name, and address line. Instead of authorizing the CustomerCreditCard\_ProfG\_FP table, will authorize the the view instead.

In this view (MaskedCustomerCreditCard), the CreditCardNumber field is masked, displaying only the last four digits. The CreditCardOwnerName field displays the first character of the owner name followed by asterisks. Similarly, the AddressLine1 field displays the first two characters of the address line 1 followed by asterisks.

- ❖ Below is the query to implement the view (Data Masking):

```
CREATE VIEW MaskedCustomerCreditCard AS  
  
SELECT  
  
    CONCAT('XXXX-XXXX-XXXX-', SUBSTRING(CreditCardNumber, -4)) AS CreditCardNumber,  
  
    CustomerID,  
  
    CONCAT(SUBSTRING(CreditCardOwnerName, 1, 1), REPEAT('*', LENGTH(CreditCardOwnerName) - 1))  
AS CreditCardOwnerName,  
  
    CreditCardIssuingCompany,  
  
    ExpDate,  
  
    CONCAT(SUBSTRING(AddressLine1, 1, 2), REPEAT('*', LENGTH(AddressLine1) - 2)) AS AddressLine1,  
  
    AddressLine2,  
  
    City,  
  
    StateCode,  
  
    ZipCode,  
  
    Country,  
  
    CreditCardLimit,  
  
    CreditCardBalance,  
  
    ActivationStatus  
  
FROM  
  
    CustomerCreditCard_ProfG_FP;
```

- ❖ Below is the query for output:

```
select * from MaskedCustomerCreditCard;
```

❖ Below is the output result:

```

1403 • select * from MaskedCustomerCreditCard;
1404
1405
1406
1407
1408
1409

```

CreditCardNumber	CustomerID	CreditCardOwnerName	CreditCardIssuingCompany	ExpDate	AddressLine1	AddressLine2	City	StateCode	ZipCode	Country
XXXX-XXXX-XXXX-4440	30	Z*****	TD Bank	2025-05-01	90*****	Suite 101	Townsville	NY	12345	U
XXXX-XXXX-XXXX-5670	17	N*****	Citi Bank	2024-11-01	50*****	NULL	Cityburg	FL	78901	U
XXXX-XXXX-XXXX-4560	24	A*****	Capital One	2025-01-01	30*****	Apt 505	Villageville	CA	45678	U
XXXX-XXXX-XXXX-9010	29	L*****	Citi Bank	2024-11-01	80*****	Apt 909	Cityville	CA	1234	U
XXXX-XXXX-XXXX-5670	7	W*****	Chase	2024-09-01	40*****	Suite 202	Townsville	NY	76543	U
XXXX-XXXX-XXXX-6780	16	O*****	Citi Bank	2025-06-01	40*****	Apt 707	Townsville	NY	67890	U
XXXX-XXXX-XXXX-5670	23	A*****	Capital One	2024-07-01	20*****	Suite 404	Cityburg	FL	56789	U
XXXX-XXXX-XXXX-1090	6	O*****	Chase	2025-07-01	30*****	NULL	Villageville	CA	23456	U
XXXX-XXXX-XXXX-5670	4	E*****	Chase	2025-04-01	10*****	NULL	Cityburg	FL	98765	U
XXXX-XXXX-XXXX-1110	30	Z*****	Capital One	2025-05-01	90*****	Suite 101	Townsville	NY	12345	U
XXXX-XXXX-XXXX-5670	1	J*****	Chase	2024-12-01	12*****	Apt 456	Cityville	CA	12345	U
XXXX-XXXX-XXXX-9010	20	M*****	Capital One	2025-04-01	80*****	NULL	Cityville	CA	1234	U
XXXX-XXXX-XXXX-6780	27	L*****	Capital One	2024-12-01	60*****	Suite 808	Villageton	TX	89012	U
XXXX-XXXX-XXXX-4320	14	E*****	Citi Bank	2025-02-01	20*****	NULL	Township	GA	45678	U
XXXX-XXXX-XXXX-5670	5	M*****	Chase	2024-11-01	20*****	Apt 303	Township	GA	34567	U
vvvv vvvv vvvv vvvv	7	*****	Chase	2025-08-01	40*****	NULL	Townsville	NY	54321	U

MaskedCustomerCreditCard 117 ×

Read Only

## Data Retention Policy (Partitioning)

In this section, will be implementing data retention policy using partitioning, partitioning a table based on a date column and then periodically managing partitions.

- ❖ Below is the code to create a Partitioned table every six months for ServiceRequest table:

```
-- Create a partitioned table by month
CREATE TABLE ServiceRequest_MonthlyPartitioned (
    ServiceRequestID INT,
    CustomerID INT NOT NULL,
    EmployeeID INT NOT NULL,
    RequestDate DATE NOT NULL,
    RequestType VARCHAR(50) NOT NULL,
    Description TEXT NOT NULL,
    Status VARCHAR(50) NOT NULL,
    Rating INT CHECK (Rating BETWEEN 1 AND 5) NOT NULL,
    PRIMARY KEY (ServiceRequestID, RequestDate) -- Include RequestDate in the primary key
)
PARTITION BY RANGE (MONTH(RequestDate)) (
    PARTITION p_JanToJun VALUES LESS THAN (7),
    PARTITION p_JulToDec VALUES LESS THAN (13),
);
;
```

- ❖ Below is the code to insert data into the Partitioning table:

```
-- Insert data from ServiceRequest_ProfG_FP table
INSERT ServiceRequest_MonthlyPartitioned
SELECT * FROM ServiceRequest_ProfG_FP;
```

- ❖ Below is the code to show the partitioned table:

```
SELECT partition_name, partition_expression, partition_description, table_rows
FROM INFORMATION_SCHEMA.PARTITIONS
WHERE table_name = 'ServiceRequest_MonthlyPartitioned';
```

	PARTITION_NAME	PARTITION_EXPRESSION	PARTITION_DESCRIPTION	TABLE_ROWS
▶	p_JanToJun	month('RequestDate')	7	11
	p_JulToDec	month('RequestDate')	13	19

## Conclusion

In conclusion, the CityTech Retail Database Management System project has successfully designed, implemented, and populated 21 tables, each suffixed with ProfG\_FP. Focused on key entities such as Human Resource, Customer Relation, Marketing, Sales, and Product Management, the project addressed the organization's operational needs comprehensively.

Security measures were implemented by masking sensitive client information, including credit card number, owner name, and address. This ensures that only authorized personnel with appropriate access can view and handle sensitive data, ensuring privacy and compliance with security standards.

For enhanced decision-making and operational insights, the project created 15 detailed business reports, offering a descriptive overview of how the database system can answer typical questions across various departments.

Automation played a pivotal role, with over 20 business rules identified and implemented. Critical operations in Human Resources, Customer Relations, Sales, and Product Management were automated to improve efficiency and accuracy.

To address performance concerns, the project strategically optimized the database by implementing indexing, significantly improving response times, particularly during the execution of canned reports. This optimization resolves the reported slowdown issue, enhancing the overall user experience.

In line with data governance principles, the project introduced a data retention policy utilizing partitioning, providing a structured approach to manage data longevity while aligning with regulatory and business requirements.

To facilitate downstream consumption, three payloads in JSON format were generated, adhering to modern data exchange standards. Additionally, the project developed and rigorously tested four stored procedures, each implementing essential business rules, and seven triggers across separate tables. These triggers encompassed various operations—delete, insert, and update—aligning with the dynamic nature of the database.

This holistic approach to database design and management underscores the project's commitment to delivering a robust, secure, and high-performing solution for CityTech's retail operations, setting the stage for continued success in their data-driven endeavors.