**Lesson 1 – Introduction to Data Analysis**

Examine the attached set of tables and answer the following questions:

Table Column Links, Related Tables, Types of Keys

1. Study each table and try to determine which entity it represents. Then underline the field or fields that constitute the primary key. (E.g., in an Orders table, Primary key = Order number + Line number)

The entity of CallsTable is Calls

The entity of EmployeeTable is Employee

The entity of DepartmentTable is Department

In CallsTable the PK is CallNo

In EmployeeTable the PK is EmployeeNo

In DepartmentTable the PK is DepartmentCode

1. Draw a line between the tables that are related. Draw the line from the field in one table to the field in the other table that represents the same value. (E.g., Customer number in Orders → Customer number in Customers.)

Diagrama

El contenido generado por IA puede ser incorrecto.

1. Continuing from the previous section, if the relationship you created in the previous section represents a foreign key, indicate this next to the table in which the field is defined as a foreign key. (E.g., Customer number in the Orders table is the foreign key of Customer number in the Customers table.)

EmployeeNo is a FK in CallsTable as EmployeeNoOpenCall and EmployeeNoHandleCall

DepartmentCode is a FK in EmployeeTable

1. For each relationship that you created in the previous sections, define whether the relationship is one or many. (E.g., An item code will only appear once in the item table but may appear N times in the Orders table.)

EmployeeNo appears twice in the CallsTable as EmployeeNoOpenCall and EmployeeNoHandleCall

Tables Definitions

Tabla

El contenido generado por IA puede ser incorrecto.

Interfaz de usuario gráfica, Tabla

El contenido generado por IA puede ser incorrecto.

An Example of Data from the Tables

**Lesson 2 – Basic Retrieval and Data Filtering**

Subjects:

* Basic SELECT statement
* Basic Filtering – WHERE clause
* Filtering using AND, OR, NOT Operators

1. Write a query that displays the Order number (SalesOrderID), Order date, Customer Number (CustomerID) and Order amount (SubTotal) from the Sales.SalesOrderHeader table, for the orders above $1500 and an Order date from Jan. 1,2013 onwards.

Interfaz de usuario gráfica, Aplicación, Tabla

El contenido generado por IA puede ser incorrecto.

1. Write a query that displays all the data from the Person.Person table, only for people whose BusinessEntityID is above 10,000 and their first name is either Jack or Crystal.

Tabla

El contenido generado por IA puede ser incorrecto.

1. Write a query that displays the SalesOrderID, ProductID, and total amount for that order line (LineTotal) only for items with a Line Total between 100 and 1.000, inclusive.

Interfaz de usuario gráfica, Texto, Aplicación

El contenido generado por IA puede ser incorrecto.

**Lesson 3 – Calculated Columns and Sorting**

Subjects:

* Calculated Columns
* Aliases
* ORDER BY Keyword

1. Write a query that displays the ProductID, Product Name, Color, Weight and the profit margin (ListPrice – StandardCost) from the Production.Product table. Display only the products that have a value for Weight. Sort the results by Color, descending, and Weight, ascending.

Interfaz de usuario gráfica, Texto, Aplicación

El contenido generado por IA puede ser incorrecto.

1. The company wants to check how the prices will change if every order has a $50 delivery charge added. Write a query that displays the following columns from the Sales.SalesOrderHeader table: Order number (SalesOrderID), Order amount (SubTotal), and Order amount + $50 (named SubTotalPlus50). Sort the query results according to Order Amount from the highest to lowest.

Interfaz de usuario gráfica, Texto, Aplicación

El contenido generado por IA puede ser incorrecto.