This project consists of three sections. Be sure to number the pages in your report.

Deliverable 1. Table Creation

Using ERwin and Microsoft SQL Server, create the tables and populate them with data. The source of your data will be the Microsoft Excel spreadsheet provided to you on the Blackboard assignment. You should realize that the spreadsheet is poorly designed, and you will need to normalize the data to populate your tables.

A. Use ERwin to create the tables, and then forward engineer them to automatically generate the schema in SQL Server. Include your .erwin file with your deliverables, as well as your SQL database. NOTE: your database and ERwin files must be named using the syntax of LASTNAMEF-P3 (where F is your first initial and P3 represents Project 3). Reminder: To obtain your SQL database file, first make sure that there are no open connections to your SQL database (either your Query Session or ERwin) , then right-click on your database and select the detach menu option. Detaching your database will produce two output files, (.mdf & .ldf). Both are necessary to attach a database, so be sure to include both.

Here is list of the entities for this project:

Entities:

CUSTOMER_T
- CustomerID (PK)
- CustomerName
- CustomerStreet
- CustomerCity
- CustomerState
- CustomerZip
- CreditLimit
- SalesRepID (FK) of EMPLOYEE_T

ORDER_T
- OrderID (PK)
- CustomerID (FK) of CUSTOMER_T
- CustomerPONumber (This means the *Customer Purchase Order Number*)
- OrderDate
- DueDate
- ShipDate

ORDER_LINE_T
- OrderID composite (PK), (FK) of ORDER_T
- ProductID composite (PK), (FK) of PRODUCT_T
- OrderQuantity

PRODUCT_T

ProductID	(PK)
ProductDescription	
UnitPrice	
StockQuantity	this is the amount of the product we have in our warehouse. It is not provided in the data, so make up an arbitrary amount.

FABRICATED_T

ProductID	composite (PK), (FK) of PRODUCT_T.ProductID
PartID	composite(PK), (FK) of PRODUCT_T.ProductID
PartQuantity	*quantity of PartID that goes into ProductID (example, 2 tires In one bicycle)*

PRODUCT_SUPPLIER_T

ProducID	composite (PK), (FK) of PRODUCT_T
SupplierID	composite (PK), (FK) of SUPPLIER_T
VendorPartID	this is the ID the Vendor (i.e., Supplier) uses in their system), similar to CustomerPONumber in the ORDER_t.
ProductCost	this is the amount we paid the Vendor for the product
PurchasedQuantity	

SUPPLIER_T

SupplierID	(PK)
SupplierName	
SupplierStreet	
SupplierCity	
SupplierState	
SupplierZip	

EMPLOYEE_T

EmployeeID	(PK)
EmployeeFirstName	
EmployeeLastName	
EmployeeJobTitle	
EmployeeStreet	
EmployeeCity	
EmployeeState	
EmployeeZip	
EmployeeHireDate	
ManagerID	(FK) unary

EMPLOYEE_COURSE_T

EmployeeID	composite (PK), (FK) of EMPLOYEE_T
CourseID	composite (PK), (FK) of COURSE_T
CompletionDate	

COURSE_T
- CourseID (PK)
- CourseDescription

SALES_REPRESENTATIVE_T
- EmployeeID (PK), (FK) of EMPLOYEE_T
- CommissionRate (hint: only employees with commission rates should be added to this table).

B. Be sure to include the appropriate integrity constraints and the proper data types and field widths.

C. Populate the tables using SQL statements within SQL Server. Include a screenshot of successfully populating at least one row in each table with your deliverables. Provide the results of the INSERT INTO screenshots with one table per page.

I strongly suggest that you save all of your INSERT INTO statements in a text file. By doing this, if you ever need to rebuild your database, it will not take long to add your data. I suspect that you will wish that you have this text file when you work on Project 3 in the future.

Deliverable 2. SQL Statements

Each question within deliverable 2 must begin on a new page and be sure to document the question as the title of each item at the top of each page. Also, using a 12-point font, include the SQL statement and then provide a screen shot of each query. The screen shots must include both the SQL statement and the results for each item below based on the data entered in task 1. The screen shots must be large enough for the instructor to clearly read the results without a magnifying glass! **Caution:** Read the instructions carefully! Each question is based on a single SQL statement, and the single SQL statement might contain sub-queries (additional SELECT statements) within the statement.

A. Provide a list all of the Customer ID, Customer Names, and States and sort the list in alphabetical order by Customer Name.

B. Provide a list of all of the Customer ID, Customer Names, and City, and sort the list by city with the Customer Names in alphabetical order within each city.

C. List the customers showing the Customer ID, Customer Name, address, and sales rep name in alphabetical order by customer name

D. Which employees have not completed course ID = 100? ***Hint:*** name of employee only, and the best way to determine this is by having a subselect statement to determine the EmployeeIDs that have completed CourseID 100, and then have a the select statement use the output of the subselect to determine which of all of the employees are not in the list provided by the subselect.

E. How many sales reps does PSC have? ***Hint:*** I want to know how many, not who they are. Also, realize that all sales reps are employees, but not all employees are sales reps. Also, keep in mind that being a sales rep does not mean that they have actually sold anything.

F. List all of the sales reps sorted by largest commission rate first ***Hint:*** name and sales commission rate

G. Who are the manager(s) of the sales reps? ***Hint:*** name of the maanaer only.

H. List the employees names who report to a Sales Manager. ***Hint:*** Your SQL statement will need to determine the manager first before it can determine the employees that report to him/her.

I. Who is the manager of the manager of the sales reps? ***Hint:*** Show the name of the sales rep's manager's manager only, and your single SQL statement will need to determine the sales rep's manager before it can determine the manager of the sales rep's manager.

J. List the employee names of those that report directly to the manager of the sales manager(s). ***Hint:*** Your SQL statement must determine the sales manager before it can determine manager of the sales rep's manager, and then it must determine the names of those that report to the manager of the sales rep's manager.

K. Provide an inventory report that lists the most costly items first. The inventory report should include product identification numbers, product descriptions, unit prices, supplier names, cost, and quantity supplied. ***Hint:*** the most costly item is the one in which the product of cost and quantity yields the largest value. Be careful not to confuse cost with price. **Price** is the value that the products are sold to the customers, and **cost** is the value that is paid to purchase the products from the suppliers. Also, be aware that the word "product" above refers to the result of multiplication (i.e., the product of cost and quantity).

L. List all of the employees in alphabetical order and each course they have completed in order of date completed. ***Hint:*** some employees might not have taken any courses.

Statement of academic integrity

Include the statement of academic integrity that was provided to you on Blackboard for.

Submission of project

The assignment is due before the end of the day on the due date, as documented within the syllabus. You must submit your .docx, .erwin, .mdf, and .ldf files to the Blackboard assignment. Be sure to follow all of the instructions included with the course syllabus regarding submitting projects. Late work will not be accepted.