Assignment #5 – Jungle Books

Your company has been contracted to develop a web application for an online book retailer, Jungle.com. The application will be the online ordering system for Jungle.com which will allow clients to view information about different books, add them to their "shopping cart" and when they are done selecting their books, proceed to checkout and pay for their books.

You are a member of the development team working on this system and your task is to create the database design for the system. After talking with the team and the customer, you have come up with the following requirements your database must satisfy.

Requirements

1. The database must hold information about the products the company is selling (i.e. books). Each book consists of a title, a brief summary, an author (or authors), an ISBN, a price and any additional information you deem necessary.
2. The database must hold information about book categories (e.g. Science Fiction, Non-Fiction, etc). A particular book can have multiple categories (e.g. Children's Books and Fiction).
3. The database must hold information about the customers who are purchasing the books. The customers must submit their full names, billing address, shipping address, phone number, and email address. When they register, they will provide a username and password in order to login to their account.
4. The database must hold information about the customers' orders. Each order is given a unique order number, the date ordered, the date shipped, the status of the order (e.g. pending confirmation, in progress, completed, etc), the subtotal of the order, the taxes, the total cost and, of course, each order consists of one or more products that are being purchased.
5. The database must hold information about each item on the order. The item's information will contain the product being purchased, the quantity being purchased and the subtotal of each line item.
6. A completed Entity-Relationship diagram is needed before the database can be constructed. The ERD should have all information required to complete the database design and should be carefully and professionally laid out using Visual Paradigm.
7. A SQL script is required with all the SQL statements necessary to create the database, the tables and the foreign keys.
8. Since you are not working on the web portion of the database, you must test all the database functionality using standard SQL statements. These statements would then be given to the web developers to complete the front-end.

9. The database will require the following tests:

    - Add three books of your choice, their information and their categories to the database.
    - Create customer information for four fictitious people and add their information to the database.
    - Create three new orders
        - Customer 1 buys one copy of all three books
        - Customer 2 buys just one of the books
        - Customer 3 buys five copies of one book, two copies of the second and ten copies of the third
    - Delete the second order
    - Change the status of the first order to complete.
    - Change the third order to add another copy of the second book.
    - Display all customer information for customers that have no orders. (i.e. the count of their order ids is zero)
    - Display the title, author, ISBN and price of all books related to databases. (i.e. contain the word "database" or are in the "database" category)
    - Display the email addresses of customers who have outstanding orders. (i.e. orders that have no ship date yet)
    - Display just the order information (i.e. not the order details) on all orders that have purchased more than one copy of any of the books. (e.g. two copies of book one, three copies of book three, etc)
    - Display the order number and the total number of books in each order. This will be used to calculate shipping costs.
    - Display each order number, customer name and the total cost of their order by adding the cost of all the items. (Determine each cost by using the quantity and price and adding 15% tax).

10. The SQL statements must adhere to good database practices. (e.g. naming conventions, capitalization, formatting, etc)

Print out all of the following documents, and submit the documents electronically to the D2L dropbox:

- Completed Entity-Relationship Diagram in Visual Paradigm
- The SQL script(s), including a brief description of each query as a comment.

  Example:

  ```
  -- Creates the Customer table
  CREATE TABLE Customer (
  …
  )
  ```

Rubric

The assignment will be evaluated as follows:

Category/Item	Value	Score (0-3)
ERD	**42**	
Entities	15	(x5)
Relationships	3	
Fields	9	(x3)
Data Types	9	(x3)
Primary Keys	3	
Foreign Keys	3	
SQL Statement	**108**	
Create database objects	15	(x5)
Create book data	6	(x2)
Create customer data	6	(x2)
Create order data	12	(x4)
Delete second order	3	
Change first order	6	(x2)
Change third order	6	(x2)
Display all customer information	3	
Display the title, author, ISBN and price of all books related to database	9	(x3)
Display email addresses of customers who have outstanding orders	6	(x2)
Display all orders that have purchased more than one of any of the books	12	(x4)
Display the order number and the total number of books in each order	12	(x4)
Display the total cost of the order by adding the cost of all the items	12	(x4)
Total Score	**150**	