CT230 DATABASE SYSTEMS

ASSIGNMENT: 2

LAB DATES: 4TH, 5TH AND 9TH OCTOBER 2018

Due: (via Blackboard) by Monday 15th October 2018

there is a penalty for late submissions

Learning Outcomes: To become familiar with the SQL CREATE and SQL INSERT commands.

Goal: This assignment involves the **creation** of tables from a book domain using the **SQL CREATE** command and **populating** these tables with data. This database will be used in future labs and it is therefore *very important* that the tables and links between them are created correctly and that the attribute and table names, as specified in the schema, are used. Also the data ***as given*** **must be all entered.**

Please note that you may wish to use your existing database space (with the company schema) or request a new database for this new book example.

SCHEMA:

author(aID, fName, surname**)**

book(isbn, title, authorID, genre, pubYear, publisher, rrPrice, avgRating**)**

bookShop(shopNo, shopName, street, city, county**)**

orders(orderNo, sNo, oDate, salesRep**)**

orderDetails(oNo, bookISBN, quantity**)**

Information is held on books, the authors of those books and the books ordered by bookshops through sales representatives in five tables.

The **author** table holds the author's first name (fName) and surname (surname), and the author ID (aID).

The **book** table holds details on each book: the unique isbn, the title (title), the ID of the author (authorID), the genre (genre) of the book (e.g. novel, fiction, science), the year the book was published (pubYear), the publisher name (publisher), the recommended retail price (rrPrice) in Euros and the average user rating (avgRating), a real-valued number between 1 and 5. authorID is a foreign key to aID in the author table. Note that one author can write many books but that each book has only a single author.

- Note that usually a real isbn code has a mixture of numbers and characters but for simplicity, our sample data has only integer numbers thus **integer** will be a suitable data type.

- Also note that only the year is stored for pubYear. Therefore, an integer will be a suitable data type.

The **bookShop** table holds details on bookshops: a unique shop number (`shopNo`), the bookshop name (`shopName`) and bookshop address (`street`, `city`, `county`).

The **orders** table holds some of the details on the orders with a unique order number for each order (`orderNo`), the unique ID of the shop who place the order (`sNo`), the date the order was placed (`oDate`) and the name of the sales representative who takes the order (`salesRep`). `sNo` is a foreign key to `shopNo` in the `bookShop` table . Note that one shop can place many orders.

The **orderDetails** table holds details, per order (`oNo`), on the actual books (`bookISBN`) ordered and the quantity required of each book per order (`quantity`). `oNo` is a foreign key to `orderNo` in the `orders` table and `bookISBN` is a foreign key to `isbn` in the `book` table. Note that an order can contain many books and that one book can be included in multiple different orders

SAMPLE DATA:

Sample data for the tables is currently available on blackboard in text files which you should enter using SQL INSERT commands as you did in Assignment 1. You must ensure all data given is entered.

TASKS:

1. Using SQL DDL commands create each of the five tables and run the query/queries. Use the given sample data to choose appropriate data types for each attribute. Ensure you do not try to create foreign key relationships *before* they table and attribute they reference exists.
   Suitable data types for the book table would be INTEGER, VARCHAR(), SINGLE or FLOAT.
   Note that all the create commands can be entered one after another before running if you wish. However, make sure to get a screenshot of ALL queries and that the database name is visible for all answers.
2. Enter the sample data given for each table with the INSERT INTO command.

OUTPUTS:

(a) For each table, the DDL Create query, the DML Insert query, any additional queries you may need to create constraints and a partial screenshot of the resulting data in the table.
(b) A screenshot of the overall database schema – making sure connections between tables are clearly visible/

HAND UP:

Follow the assignment template guidelines given and ensure that all the specified outputs, the plagiarism declaration and the timestamp/database query name are included.