Homework: SQL/DDL … Orders and Order Lines

The objective of this homework is to practice SQL/DDL. In working on this homework, refer to the script that we used to create our SAILORS database and to other class notes.

Given

On the next page you'll find SQL code that contains:

1. An incomplete declaration of a schema for database tables about **Orders** and their **Order Lines**.
2. A set of INSERT statements to populate the table.

   Important reminder: The INSERT statements are designed to test your implementation. Before writing any code, you must figure out based upon the English specs of the ICs which INSERTS will be accepted and which ones will be rejected.)

Required Tasks

For this homework, you are required to do the following tasks:

1. Cut all the SQL code (provided on the next page) and paste it into a **text file (WordPad is recommended)**. Name your file **`ddl.sql`** *(Reminder: Make sure that your file is a text file and that single quotes (as in 'name' for example) are converted properly into text … do some editing in wordpad if you have to).*
2. Edit your file **`ddl.sql`** by completing the coding of integrity constraints IC1 … IC5. (***IMPORTANT: Don't change the names of these constraints***.)
3. Run your completed command file **`ddl.sql`** on oracle. The run will produce an output file called **`ddl.out`**
4. Study and verify your results against the inserted data.
5. Edit your file **`ddl.out`** in the following way: Open it in Wordpad, select all, change the font size to 9, and save.
6. Submit a printed copy of your file **`ddl.out`** on the due date in class.

```
SPOOL ddl.out
SET ECHO ON
--
-- Author: <<< YOUR NAME GOES HERE >>>
--
-- IMPORTANT: use the names IC-1, IC-2, etc. as given below.
-- ----------------------------------------------------------------
-- The two DROP commands below are placed here for convenience in
-- order to drop the tables if they exist. If the tables don't
-- exist, you'll get an error - just ignore the error.
--
DROP TABLE Orders CASCADE CONSTRAINTS;
DROP TABLE OrderLine CASCADE CONSTRAINTS;
--
CREATE TABLE Orders
(
orderNum   INTEGER      PRIMARY KEY,
priority   CHAR(10)     NOT NULL,
cost       INTEGER      NOT NULL,
/*
IC1: The priority is one of: high, medium, or low
*/
<<< YOUR SQL CODE GOES HERE >>>
/*
IC2: The cost of a high priority order is above 2000.
*/
<<< YOUR SQL CODE GOES HERE >>>
/*
IC3: The cost of a medium priority order is between 800 and 2200 (inclusive).
*/
<<< YOUR SQL CODE GOES HERE >>>
/*
IC4: The cost of a low priority order is less than 1000.
*/
<<< YOUR SQL CODE GOES HERE >>>
);
--
--
CREATE TABLE  OrderLine
(
orderNum       INTEGER,
lineNum        INTEGER,
item           CHAR (10)  NOT NULL,
quantity       INTEGER,
PRIMARY KEY (orderNum, lineNum),
/*
IC5: Every order line must belong to an order in the Order table.
Also: if an order is deleted then all its order lines must be deleted.
IMPORTANT: DO NOT declare this IC as DEFERRABLE.
*/
<<< YOUR SQL CODE GOES HERE >>>
);
--
-- ----------------------------------------------------------------
-- TESTING THE SCHEMA
-- ----------------------------------------------------------------
INSERT INTO Orders VALUES (10, 'high', 2400);
INSERT INTO Orders VALUES (20, 'high', 1900);
INSERT INTO Orders VALUES (30, 'high', 2100);
```

```
INSERT INTO Orders VALUES (40, 'medium', 700);
INSERT INTO Orders VALUES (50, 'low', 1100);
INSERT INTO Orders VALUES (60, 'low', 900);
SELECT * from Orders;
-- ----------------------------------------------------------------
INSERT INTO OrderLine VALUES (10, 1, 'AAA', 200);
INSERT INTO OrderLine VALUES (10, 2, 'BBB', 300);
INSERT INTO OrderLine VALUES (60, 1, 'CCC', 5);
INSERT INTO OrderLine VALUES (15, 1, 'AAA', 7);
SELECT * FROM OrderLine;
--
DELETE FROM Orders WHERE orderNum = 10;
SELECT * From Orders;
SELECT * FROM OrderLine;
--
SET ECHO OFF
SPOOL OFF
```