VIT®

Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)

SWE1004 - (L 9 + L10)

Lab Sheet 3

Integrity Constraints

Important guidelines to be followed

- Every table created should have the last four digits of your registration number **together with the table name(eg:emp_1021)**
- Insert a minimum of 5 **records** for each table as per the requirements of the query.
- No query must return an answer **"No rows found"**
- *Upload a **PDF** document with*
  - *the screenshots of tables created,*
  - *Records of the tables,*
  - *SQL queries with answers*

Exercise: **SQL - Integrity Constraints**

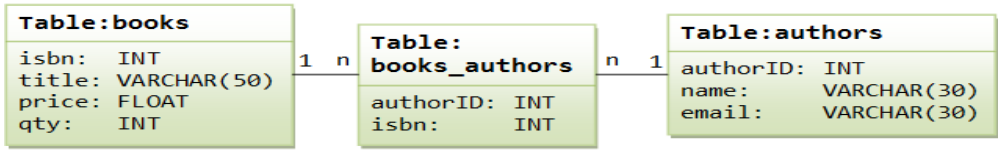
Create the following tables and apply constraints as follows

1. Books Table:
   a. isbn – primary key
   b. title
   c. price
   d. qty – not null

2. Authors Table:
   a. authorId – primary key
   b. email – unique

3. Book_Authors:
   a. isbn – foreign key references books table
   b. authorId – foreign key references authors table

Database: mybookstore



books

isbn	title	price	qty
1001	Java for Dummies	11.11	11
1002	Only Java	22.22	22
1003	Java ABC	33.33	33
1004	Java 123	44.44	44

books_authors

authorID	isbn
1	1001
2	1001
3	1001
1	1002
3	1002
2	1003
2	1004

authors

authorID	name	email
1	Tan Ah Teck	teck@nowhere.com
2	Mohamed Ali	ali@somewhere.com
3	Kumar	kumar@abc.com
4	Kelvin Jones	kelvin@xzy.com

Write SQL Queries for the following:

Constraints:

```
SQL>  SELECT * FROM books_table_1119_;

     ISBN TITLE                                              PRICE
--------- -------------------------------------------------- ----------
      QTY
----------
     1001 Java for Dummies                                   11.11
       11

     1002 Only Java                                          22.22
       22

     1003 Java ABC                                           33.33
       33


     ISBN TITLE                                              PRICE
--------- -------------------------------------------------- ----------
      QTY
----------
     1004 Java for 123                                       44.44
       44
```

1. Add unique constraint to title in books table

```
SQL> ALTER TABLE books_table_1119_
  2  MODIFY title varchar(50) UNIQUE;

Table altered.
```

2. Add not null constraint to price in books table

```
SQL> ALTER TABLE books_table_1119_
  2  MODIFY title varchar(50) UNIQUE;

Table altered.
```

3. Alter not null constraint in price attribute in books table and set the check constraint so that value is greater than 0.0

```
SQL> ALTER table  books_table_1119_ ADD CHECK(price> 0);

Table altered.
```

4. Drop not null constraint for qty in books table

```
SQL>  ALTER TABLE books_table_1119_
  2  MODIFY qty int;

Table altered.
```

5. Set a default value of qty in books table as 0

```
SQL>  ALTER TABLE books_table_1119_
  2  MODIFY qty int DEFAULT'0';
```

6. Drop unique constraint for email attribute in authors table

```
SQL> ALTER TABLE authors_1119
  2  MODIFY email varchar(30);

Table altered.
```

7. Drop any one foreign key constraint.

8. Drop a primary key [after referenced foreign key is dropped]

```
SQL> ALTER TABLE books_table_1119
  2  DROP COLUMN isbn;

Table altered.
```

9. Add an attribute for authors table and set a constraint for it.

```
SQL>  ALTER TABLE authors_1119
  2   ADD review varchar(30) UNIQUE;

Table altered.
```