PROGRAM 7. BOOK DEALER DATABASE

The following tables are maintained by a book dealer:

AUTHOR(author-id: int, name: String, city: String, country: String)

PUBLISHER(publisher-id: int, name: String, city: String, country: String)

CATALOG (book-id: int, title: String, author-id: int, publisher-id: int, category-id: int, year: int, price: int)

CATEGORY(category-id: int, description: String)

ORDER-DETAILS(order-no: int, book-id: int, quantity: int)

i. Create the above tables by properly specifying the primary keys and the foreign keys.

mysql> create database book\_dealer;

Query OK, 1 row affected (0.94 sec)

mysql> use book\_dealer;

Database changed

mysql> create table author(

-> author\_id int primary key,

-> name varchar(20),

-> city varchar(20),

-> country varchar(20));

Query OK, 0 rows affected (2.35 sec)

mysql> desc author;

+-----------+-------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+-----------+-------------+------+-----+---------+-------+

| author\_id | int | NO | PRI | NULL | |

| name | varchar(20) | YES | | NULL | |

| city | varchar(20) | YES | | NULL | |

| country | varchar(20) | YES | | NULL | |

+-----------+-------------+------+-----+---------+-------+

4 rows in set (0.41 sec)

mysql> create table publisher(

-> publisher\_id int primary key,

-> name varchar(20),

-> city varchar(20),

-> country varchar(20));

Query OK, 0 rows affected (0.56 sec)

mysql> desc publisher;

+--------------+-------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+--------------+-------------+------+-----+---------+-------+

| publisher\_id | int | NO | PRI | NULL | |

| name | varchar(20) | YES | | NULL | |

| city | varchar(20) | YES | | NULL | |

| country | varchar(20) | YES | | NULL | |

+--------------+-------------+------+-----+---------+-------+

4 rows in set (0.08 sec)

mysql> create table category(

-> category\_id int primary key,

-> description varchar(20));

Query OK, 0 rows affected (2.23 sec)

mysql> desc category;

+-------------+-------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+-------------+-------------+------+-----+---------+-------+

| category\_id | int | NO | PRI | NULL | |

| description | varchar(20) | YES | | NULL | |

+-------------+-------------+------+-----+---------+-------+

2 rows in set (0.08 sec)

mysql> create table catalog(

-> book\_id int primary key,

-> title varchar(20),

-> author\_id int,publisher\_id int,

-> category\_id int,

-> price int,year int,

-> foreign key(author\_id) references author(author\_id) on update cascade on delete cascade,

-> foreign key(publisher\_id) references publisher(publisher\_id) on update cascade on delete cascade,

-> foreign key(category\_id) references category(category\_id) on update cascade on delete cascade);

Query OK, 0 rows affected (0.95 sec)

mysql> desc catalog;

+--------------+-------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+--------------+-------------+------+-----+---------+-------+

| book\_id | int | NO | PRI | NULL | |

| title | varchar(20) | YES | | NULL | |

| author\_id | int | YES | MUL | NULL | |

| publisher\_id | int | YES | MUL | NULL | |

| category\_id | int | YES | MUL | NULL | |

| price | int | YES | | NULL | |

| year | int | YES | | NULL | |

+--------------+-------------+------+-----+---------+-------+

7 rows in set (0.12 sec)

mysql> create table order\_detail(

-> order\_no int primary key,

-> book\_id int ,

-> quantity int,

-> foreign key(book\_id) references catalog(book\_id) on update cascade on delete cascade);

Query OK, 0 rows affected (1.98 sec)

mysql> desc order\_detail;

+----------+------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+----------+------+------+-----+---------+-------+

| order\_no | int | NO | PRI | NULL | |

| book\_id | int | YES | MUL | NULL | |

| quantity | int | YES | | NULL | |

+----------+------+------+-----+---------+-------+

3 rows in set (0.13 sec)

ii. Enter at least five tuples for each relation.

mysql> insert into author values(

-> ;

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '' at line 1

mysql> insert into author values

-> (1001,'JK Rowling','London','England'),

-> (1002,'Chetan Bhagat','Mumbai','India'),

-> (1003,'John McCarthy','Chicago','USA'),

-> (1004,'Dan Brown','California','USA') ;

Query OK, 4 rows affected (0.17 sec)

Records: 4 Duplicates: 0 Warnings: 0

mysql> select \* from author;

+-----------+---------------+------------+---------+

| author\_id | name | city | country |

+-----------+---------------+------------+---------+

| 1001 | JK Rowling | London | England |

| 1002 | Chetan Bhagat | Mumbai | India |

| 1003 | John McCarthy | Chicago | USA |

| 1004 | Dan Brown | California | USA |

+-----------+---------------+------------+---------+

4 rows in set (0.00 sec)

mysql> insert into publisher values

-> (2001,'Bloomsbury','London','England'),

-> (2002,'Scholastic','Washington','USA'),

-> (2003,'Pearson','London','England'),

-> (2004,'Rupa','Delhi','India') ;

Query OK, 4 rows affected (0.27 sec)

Records: 4 Duplicates: 0 Warnings: 0

mysql> select \* from publisher;

+--------------+------------+------------+---------+

| publisher\_id | name | city | country |

+--------------+------------+------------+---------+

| 2001 | Bloomsbury | London | England |

| 2002 | Scholastic | Washington | USA |

| 2003 | Pearson | London | England |

| 2004 | Rupa | Delhi | India |

+--------------+------------+------------+---------+

4 rows in set (0.00 sec)

mysql> insert into category values

-> (3001,'Fiction'),

-> (3002,'Non-Fiction'),

-> (3004,'action'),

-> (3005,'fiction') ;

Query OK, 4 rows affected (0.17 sec)

Records: 4 Duplicates: 0 Warnings: 0

mysql> select \* from category;

+-------------+-------------+

| category\_id | description |

+-------------+-------------+

| 3001 | Fiction |

| 3002 | Non-Fiction |

| 3004 | action |

| 3005 | fiction |

+-------------+-------------+

4 rows in set (0.00 sec)

mysql> insert into category values (3003,'thriller'),

-> ;

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '' at line 1

mysql> insert into category values (3003,'thriller');

Query OK, 1 row affected (0.08 sec)

mysql> select \* from category;

+-------------+-------------+

| category\_id | description |

+-------------+-------------+

| 3001 | Fiction |

| 3002 | Non-Fiction |

| 3003 | thriller |

| 3004 | action |

| 3005 | fiction |

+-------------+-------------+

5 rows in set (0.00 sec)

mysql> insert into catalog values

-> (4001,'HP and Goblet Of Fire',1001,2001,3001,2002,600),

-> (4002,'HP and Order Of Phoenix',1001,2002,3001,2005,650),

-> (4003,'Two States',1002,2004,3001,2009,65),

-> (4004,'3 Mistakes of my life',1002,2004,3001,2007,55),

-> (4005,'Da Vinci Code',1004,2003,3001,2004,450),

-> (4006,'Angels and Demons',1004,2003,3001,2003,350),

-> (4007,'Artificial Intelligence',1003,2002,3002,1970,500) ;

Query OK, 7 rows affected (0.45 sec)

Records: 7 Duplicates: 0 Warnings: 0

mysql> select \* from catalog;

+---------+-------------------------+-----------+--------------+-------------+-------+------+

| book\_id | title | author\_id | publisher\_id | category\_id | price | year |

+---------+-------------------------+-----------+--------------+-------------+-------+------+

| 4001 | HP and Goblet Of Fire | 1001 | 2001 | 3001 | 2002 | 600 |

| 4002 | HP and Order Of Phoenix | 1001 | 2002 | 3001 | 2005 | 650 |

| 4003 | Two States | 1002 | 2004 | 3001 | 2009 | 65 |

| 4004 | 3 Mistakes of my life | 1002 | 2004 | 3001 | 2007 | 55 |

| 4005 | Da Vinci Code | 1004 | 2003 | 3001 | 2004 | 450 |

| 4006 | Angels and Demons | 1004 | 2003 | 3001 | 2003 | 350 |

| 4007 | Artificial Intelligence | 1003 | 2002 | 3002 | 1970 | 500 |

+---------+-------------------------+-----------+--------------+-------------+-------+------+

7 rows in set (0.00 sec)

mysql> insert into order\_detail values

-> (5001,4001,5),

-> (5002,4002,7),

-> (5003,4003,15),

-> (5004,4004,11),

-> (5005,4005,9),

-> (5006,4006,8),

-> (5007,4007,2),

-> (5008,4004,3) ;

Query OK, 8 rows affected (0.28 sec)

Records: 8 Duplicates: 0 Warnings: 0

mysql> select \* from order\_detail;

+----------+---------+----------+

| order\_no | book\_id | quantity |

+----------+---------+----------+

| 5001 | 4001 | 5 |

| 5002 | 4002 | 7 |

| 5003 | 4003 | 15 |

| 5004 | 4004 | 11 |

| 5005 | 4005 | 9 |

| 5006 | 4006 | 8 |

| 5007 | 4007 | 2 |

| 5008 | 4004 | 3 |

+----------+---------+----------+

8 rows in set (0.00 sec)

iii. Give the details of the authors who have 2 or more books in the catalog and the price of the books in the catalog and the year of publication is after 2000.

mysql> SELECT \* FROM author

WHERE author\_id IN

(SELECT author\_id FROM catalogue1 WHERE

year>2000 AND price>

(SELECT AVG(price) FROM catalog)

GROUP BY author\_id HAVING COUNT(\*)>1);

+------------+--------------+--------------+-----------------+

| author\_id | name | city | country |

+------------+--------------+--------------+-----------------+

| 1001 | JK Rowling | London | England |

+------------+--------------+--------------+-----------------+

1 row in set (0.00 sec))

iv. Find the author of the book which has maximum sales.

mysql> SELECT author1\_name FROM author1 a,catalogue1 c WHERE a.author1\_id=c.author1\_id AND book\_id IN (SELECT book\_id FROM orderdetails1 WHERE quantity= (SELECT MAX(quantity) FROM orderdetails1));

v. Demonstrate how you increase the price of books published by a specific publisher by 10%.

mysql> UPDATE catalogue1 SET price=1.1\*price

WHERE publisher1\_id IN

(SELECT publisher1\_id FROM publisher1 WHERE

publisher1\_name='pearson');

Query OK, 2 rows affected (0.41 sec)

Rows matched: 2 Changed: 2 Warnings: 0

mysql> SELECT \* FROM catalogue1;

+---------+-------------------------+------------+---------------+-------------+------+-------+

| book\_id | book\_title | author1\_id | publisher1\_id | category\_id | year | price |

+---------+-------------------------+------------+---------------+-------------+------+-------+

| 4001 | HP and Goblet Of Fire | 1001 | 2001 | 3001 | 2002 | 600 |

| 4002 | HP and Order Of Phoenix | 1001 | 2002 | 3001 | 2005 | 650 |

| 4003 | Two States | 1002 | 2004 | 3001 | 2009 | 65 |

| 4004 | 3 Mistakes of my life | 1002 | 2004 | 3001 | 2007 | 55 |

| 4005 | Da Vinci Code | 1004 | 2003 | 3001 | 2004 | 495 |

| 4006 | Angels and Demons | 1004 | 2003 | 3001 | 2003 | 385 |

| 4007 | Artificial Intelligence | 1003 | 2002 | 3002 | 1970 | 500 |

+---------+-------------------------+------------+---------------+-------------+------+-------+

7 rows in set (0.00 sec)