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DBMS LAB-2

BOOK DEALER DATABASE

QUESTION:

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.

ii) Enter at least five tuples for each relation.

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.

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

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

PROGRAM CODE:

```
create database bookdealer;
```

```
use bookdealer;
```

```
create table AUTHOR (
```

```
author_id int,
```

```
name varchar(20),
```

```
city varchar(15),
```

```
country varchar(15),
primary key(author_id)
);
show tables;
desc AUTHOR;
SELECT *FROM AUTHOR;
create table PUBLISHER (
publisher_id int,
name varchar(20),
city varchar(15),
country varchar(15),
primary key(publisher_id)
);
create table CATEGORY(
category_id int,
description varchar(20),
primary key(category_id)
);
show tables;
desc CATEGORY;
SELECT *FROM CATEGORY;
create table CATALOG (
book_id int,
title varchar(15),author_id int,publisher_id int,category_id int,
foreign key(author_id) references AUTHOR(author_id) on delete cascade,
foreign key(publisher_id) references PUBLISHER(publisher_id) on delete cascade,
foreign key(category_id) references CATEGORY(category_id) on delete cascade,
year int,
price int,
```

```
primary key(book_id)
);
show tables;
desc CATALOG;
SELECT *FROM CATALOG;
create table ORDER_DETAILS (
order_no int,book_id int,
foreign key(book_id) references CATALOG(book_id) on delete cascade,
quantity int
);
show tables;
desc ORDER_DETAILS;
SELECT *FROM ORDER_DETAILS;
insert into AUTHOR(author_id,name,city,country)values(1001,'TERAS CHAN','CA','USA');
insert into
AUTHOR(author_id,name,city,country)values(1002,'STEVENS','ZOMBI','UGANDA');
insert into AUTHOR(author_id,name,city,country)values(1003,'M MANO','CAIR','CANADA');
insert into AUTHOR(author_id,name,city,country)values(1004,'KARTHIK B.P','NEW
YORK','USA');
insert into AUTHOR(author_id,name,city,country)values(1005,'WILLIAM STALLINGS','LAS
VEGAS','USA');
COMMIT;
desc AUTHOR;
SELECT *FROM AUTHOR;
insert into PUBLISHER(publisher_id,name,city,country)values(1,'PEARSON','NEW
YORK','USA');
insert into PUBLISHER(publisher_id,name,city,country)values(2,'EEE','NEW SOUTH
VALES','USA');
insert into PUBLISHER(publisher_id,name,city,country)values(3,'PHI','DELHI','INDIA');
insert into
PUBLISHER(publisher_id,name,city,country)values(4,'WILLEY','BERLIN','GERMANY');
```

```
insert into PUBLISHER(publisher_id,name,city,country)values(5,'MGH ','NEW YORK','USA');

COMMIT;

desc PUBLISHER;

SELECT *FROM PUBLISHER;

insert into CATEGORY(category_id,description)values(1001,'COMPUTER SCIENCE');

insert into CATEGORY(category_id,description)values(1002,'ALGORITHM DESIGN');

insert into CATEGORY(category_id,description)values(1003,'ELECTRONICS');

insert into CATEGORY(category_id,description)values(1004,'PROGRAMMING');

insert into CATEGORY(category_id,description)values(1005,'OPERATING SYSTEMS');

COMMIT;

desc CATEGORY;

SELECT *FROM CATEGORY;

insert into
CATALOG(book_id,title,author_id,publisher_id,category_id,year,price)values(11,'Unix
System Prg',1001,1,1001,2000,251);

insert into
CATALOG(book_id,title,author_id,publisher_id,category_id,year,price)values(12,'Digital
Signals',1002,2,1003,2001,425);

insert into
CATALOG(book_id,title,author_id,publisher_id,category_id,year,price)values(13,'Logic
Design',1003,3,1002,1999,225);

insert into
CATALOG(book_id,title,author_id,publisher_id,category_id,year,price)values(14,'Server
Prg',1004,4,1004,2001,333);

insert into
CATALOG(book_id,title,author_id,publisher_id,category_id,year,price)values(15,'Linux
OS',1005,5,1005,2003,326);

insert into
CATALOG(book_id,title,author_id,publisher_id,category_id,year,price)values(16,'C++
Bible',1005,5 ,1001,2000,526);

insert into
CATALOG(book_id,title,author_id,publisher_id,category_id,year,price)values(17,'COBOL
Handbook',1005,4,1001,2000,658);

COMMIT;
```

```
desc CATALOG;

SELECT *FROM CATALOG;

insert into ORDER_DETAILS(order_no,book_id,quantity)values(1,11,5);
insert into ORDER_DETAILS(order_no,book_id,quantity)values(2,12,8);
insert into ORDER_DETAILS(order_no,book_id,quantity)values(3,13,15);
insert into ORDER_DETAILS(order_no,book_id,quantity)values(4,14,22);
insert into ORDER_DETAILS(order_no,book_id,quantity)values(5,15,3);
insert into ORDER_DETAILS(order_no,book_id,quantity)values(2,17,10);

COMMIT;

desc ORDER_DETAILS;

SELECT *FROM ORDER_DETAILS;

SELECT AUTHOR.author_id,name,city,country FROM AUTHOR,CATALOG where
AUTHOR.author_id=CATALOG.author_id group by CATALOG.author_id having
count(CATALOG.author_id)>=2;

SELECT PRICE FROM CATALOG where year>2000;

select name from AUTHOR,CATALOG where AUTHOR.author_id=CATALOG.author_id and
book_id in(select book_id from ORDER_DETAILS where quantity=(select max(quantity) from
ORDER_DETAILS));

update CATALOG set price=1.1*price where publisher_id in(select publisher_id from
PUBLISHER where name='PEARSON');

COMMIT;

SELECT *FROM CATALOG;
```

OUTPUT SCREENSHOTS:

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator: Insurance Bookdealer x

Limit to 1000 rows

foreign key(book_id) references CATALOG(book_id) on delete cascade,
 quantity int
);
 • show tables;
 • desc ORDER_DETAILS;
 • SELECT *FROM ORDER_DETAILS;
 • insert into AUTHOR(author_id,name,city,country)values(1001,'TERAS CHAN','CA','USA');
 • insert into AUTHOR(author_id,name,city,country)values(1002,'STEVENS','ZOMBI','UGANDA');
 • insert into AUTHOR(author_id,name,city,country)values(1003,'M MANO','CAIR','CANADA');
 • insert into AUTHOR(author_id,name,city,country)values(1004,'KARTHIK B.P','NEW YORK','USA');

Result Grid Filter Rows: Export: Wrap Cell Contents

Tables_in_bookdealer

- author
- catalog
- category
- order_details
- publisher

Administration Schemas

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator: Insurance Bookdealer x

Limit to 1000 rows

• insert into AUTHOR(author_id,name,city,country)values(1004,'KARTHIK B.P','NEW YORK','USA');
 • insert into AUTHOR(author_id,name,city,country)values(1005,'WILLIAM STALLINGS','LAS VEGAS','USA');
 • COMMIT;
 • desc AUTHOR;
 • SELECT *FROM AUTHOR;
 • insert into PUBLISHER(publisher_id,name,city,country)values(1,'PEARSON','NEW YORK','USA');
 • insert into PUBLISHER(publisher_id,name,city,country)values(2,'EEE','NEW SOUTH VALES','USA');
 • insert into PUBLISHER(publisher_id,name,city,country)values(3,'PHI','DELHI','INDIA');
 • insert into PUBLISHER(publisher_id,name,city,country)values(4,'WILLEY','BERLIN','GERMANY');
 • insert into PUBLISHER(publisher_id,name,city,country)values(5,'MGH ','NEW YORK','USA');

Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Contents

author_id	name	city	country
1001	TERAS CHAN	CA	USA
1002	STEVENS	ZOMBI	UGANDA
1003	M MANO	CAIR	CANADA
1004	KARTHIK B.P	NEW YORK	USA
1005	WILLIAM STALLINGS	LAS VEGAS	USA

Administration Schemas

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator: Schemas

Filter objects

database1

insurance

Tables

Views

Stored Procedures

Functions

sys

Bookdealer

Limit to 1000 rows

```
58 • insert into PUBLISHER(publisher_id,name,city,country)values(2,'EEE','NEW SOUTH VALES','USA');
59 • insert into PUBLISHER(publisher_id,name,city,country)values(3,'PHI','DELHI','INDIA');
60 • insert into PUBLISHER(publisher_id,name,city,country)values(4,'WILLEY','BERLIN','GERMANY');
61 • insert into PUBLISHER(publisher_id,name,city,country)values(5,'MGH','NEW YORK','USA');
62 • COMMIT;
63 • desc PUBLISHER;
64 • SELECT *FROM PUBLISHER;
65 • insert into CATEGORY(category_id,description)values(1001,'COMPUTER SCIENCE');
66 • insert into CATEGORY(category_id,description)values(1002,'ALGORITHM DESIGN');
67 • insert into CATEGORY(category_id,description)values(1003,'ELECTRONICS');
```

Result Grid

	publisher_id	name	city	country
1	1	PEARSON	NEW YORK	USA
2	2	EEE	NEW SOUTH VALES	USA
3	3	PHI	DELHI	INDIA
4	4	WILLEY	BERLIN	GERMANY
5	5	MGH	NEW YORK	USA
*	NULL	NULL	NULL	NULL

Administration Schemas

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator: Schemas

Filter objects

database1

insurance

Tables

Views

Stored Procedures

Functions

sys

Bookdealer

Limit to 1000 rows

```
70 • COMMIT;
71 • desc CATEGORY;
72 • SELECT *FROM CATEGORY;
73 • insert into CATALOG(book_id,title,author_id,publisher_id,category_id,year,price)values(11,'Unix System Prg',10
74 • insert into CATALOG(book_id,title,author_id,publisher_id,category_id,year,price)values(12,'Digital Signals',10
75 • insert into CATALOG(book_id,title,author_id,publisher_id,category_id,year,price)values(13,'Logic Design',1003,
76 • insert into CATALOG(book_id,title,author_id,publisher_id,category_id,year,price)values(14,'Server Prg',1004,4,
77 • insert into CATALOG(book_id,title,author_id,publisher_id,category_id,year,price)values(15,'Linux OS',1005,5,10
78 • insert into CATALOG(book_id,title,author_id,publisher_id,category_id,year,price)values(16,'C++ Bible',1005,5 ,
79 • insert into CATALOG(book_id,title,author_id,publisher_id,category_id,year,price)values(17,'COBOL Handbook',100
```

Result Grid

	category_id	description
1	1001	COMPUTER SCIENCE
2	1002	ALGORITHM DESIGN
3	1003	ELECTRONICS
4	1004	PROGRAMMING
5	1005	OPERATING SYSTEMS
*	NULL	NULL

Administration Schemas

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator: Insurance Bookdealer x

Limit to 1000 rows

76 • `insert into CATALOG(book_id,title,author_id,publisher_id,category_id,year,price)values(14,'Server Prg',1004,4,`
 77 • `insert into CATALOG(book_id,title,author_id,publisher_id,category_id,year,price)values(15,'Linux OS',1005,5,10`
 78 • `insert into CATALOG(book_id,title,author_id,publisher_id,category_id,year,price)values(16,'C++ Bible',1005,5,`
 79 • `insert into CATALOG(book_id,title,author_id,publisher_id,category_id,year,price)values(17,'COBOL Handbook',100`
 80 • `COMMIT;`
 81 • `desc CATALOG;`
 82 • `SELECT *FROM CATALOG;`
 83 • `insert into ORDER_DETAILS(order_no,book_id,quantity)values(1,11,5);`

Result Grid

	book_id	title	author_id	publisher_id	category_id	year	price
▶	11	Unix System Prg	1001	1	1001	2000	251
	12	Digital Signals	1002	2	1003	2001	425
	13	Logic Design	1003	3	1002	1999	225
	14	Server Prg	1004	4	1004	2001	333
	15	Linux OS	1005	5	1005	2003	326
	16	C++ Bible	1005	5	1001	2000	526
	17	COBOL Handbook	1005	4	1001	2000	658
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Content: Field Types

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator: Insurance Bookdealer x

Limit to 1000 rows

84 • `insert into ORDER_DETAILS(order_no,book_id,quantity)values(2,12,8);`
 85 • `insert into ORDER_DETAILS(order_no,book_id,quantity)values(3,13,15);`
 86 • `insert into ORDER_DETAILS(order_no,book_id,quantity)values(4,14,22);`
 87 • `insert into ORDER_DETAILS(order_no,book_id,quantity)values(5,15,3);`
 88 • `insert into ORDER_DETAILS(order_no,book_id,quantity)values(2,17,10);`
 89 • `COMMIT;`
 90 • `desc ORDER_DETAILS;`
 91 • `SELECT *FROM ORDER_DETAILS;`

Result Grid

	order_no	book_id	quantity
▶	1	11	5
	2	12	8
	3	13	15
	4	14	22
	5	15	3
	2	17	10

Result Grid Filter Rows: Export: Wrap Cell Content: Field Types

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator: Schemas

Filter objects

- database1
 - insurance
 - Tables
 - Views
 - Stored Procedures
 - Functions
 - sys

Insurance Bookdealer

Limit to 1000 rows

```

83 • insert into ORDER_DETAILS(order_no,book_id,quantity)values(1,11,5);
84 • insert into ORDER_DETAILS(order_no,book_id,quantity)values(2,12,8);
85 • insert into ORDER_DETAILS(order_no,book_id,quantity)values(3,13,15);
86 • insert into ORDER_DETAILS(order_no,book_id,quantity)values(4,14,22);
87 • insert into ORDER_DETAILS(order_no,book_id,quantity)values(5,15,3);
88 • insert into ORDER_DETAILS(order_no,book_id,quantity)values(2,17,10);
89 • COMMIT;
90 • desc ORDER_DETAILS;
91 • SELECT *FROM ORDER_DETAILS;
92 • SELECT AUTHOR.author_id,name,city,country FROM AUTHOR,CATALOG where AUTHOR.author_id=CATALOG.author_id group b
93 • SELECT PRICE FROM CATALOG where year>2000;

```

Result Grid

author_id	name	city	country
1005	WILLIAM STALLINGS	LAS VEGAS	USA

Administration Schemas

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator: Schemas

Filter objects

- database1
 - insurance
 - Tables
 - Views
 - Stored Procedures
 - Functions
 - sys

Insurance Bookdealer

Limit to 1000 rows

```

84 • insert into ORDER_DETAILS(order_no,book_id,quantity)values(2,12,8);
85 • insert into ORDER_DETAILS(order_no,book_id,quantity)values(3,13,15);
86 • insert into ORDER_DETAILS(order_no,book_id,quantity)values(4,14,22);
87 • insert into ORDER_DETAILS(order_no,book_id,quantity)values(5,15,3);
88 • insert into ORDER_DETAILS(order_no,book_id,quantity)values(2,17,10);
89 • COMMIT;
90 • desc ORDER_DETAILS;
91 • SELECT *FROM ORDER_DETAILS;
92 • SELECT AUTHOR.author_id,name,city,country FROM AUTHOR,CATALOG where AUTHOR.author_id=CATALOG.author_id group b
93 • SELECT PRICE FROM CATALOG where year>2000;
94 • SELECT year FROM CATALOG where AUTHOR.author_id=CATALOG.author_id and book_id = (select book_id from

```

Result Grid

PRICE
425
333
326

Administration Schemas

CATALOG 30

Dead Only

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator: Insurance Bookdealer x

Limit to 1000 rows

```

85 • insert into ORDER_DETAILS(order_no,book_id,quantity)values(3,13,15);
86 • insert into ORDER_DETAILS(order_no,book_id,quantity)values(4,14,22);
87 • insert into ORDER_DETAILS(order_no,book_id,quantity)values(5,15,3);
88 • insert into ORDER_DETAILS(order_no,book_id,quantity)values(2,17,10);
89 • COMMIT;
90 • desc ORDER_DETAILS;
91 • SELECT *FROM ORDER_DETAILS;
92 • SELECT AUTHOR.author_id,name,city,country FROM AUTHOR,CATALOG where AUTHOR.author_id=CATALOG.author_id group b
93 • SELECT PRICE FROM CATALOG where year>2000;
94 • select name from AUTHOR,CATALOG where AUTHOR.author_id=CATALOG.author_id and book_id in(select book_id from OR

```

Result Grid

name
KARTHIK B.P

Administration Schemas

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator: Insurance Bookdealer x

Limit to 1000 rows

```

91 • SELECT *FROM ORDER_DETAILS;
92 • SELECT AUTHOR.author_id,name,city,country FROM AUTHOR,CATALOG where AUTHOR.author_id=CATALOG.author_id group b
93 • SELECT PRICE FROM CATALOG where year>2000;
94 • select name from AUTHOR,CATALOG where AUTHOR.author_id=CATALOG.author_id and book_id in(select book_id from OR
95 • update CATALOG set price=1.1*price where publisher_id in(select publisher_id from PUBLISHER where name='PEARSON
96 • COMMIT;
97 • SELECT *FROM CATALOG;
98

```

Result Grid

book_id	title	author_id	publisher_id	category_id	year	price
11	Unix System Prg	1001	1	1001	2000	276
12	Digital Signals	1002	2	1003	2001	425
13	Logic Design	1003	3	1002	1999	225
14	Server Prg	1004	4	1004	2001	333
15	Linux OS	1005	5	1005	2003	326
16	C++ Bible	1005	5	1001	2000	526
17	COBOL Handbook	1005	4	1001	2000	658
NULL	NULL	NULL	NULL	NULL	NULL	NULL

Administration Schemas