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),

```sql
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,
```

```sql
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');
```

```sql
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:

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Navigator:
Insurance   Bookdealer ×

SCHEMAS

Filter objects

▶ database1
▼ insurance
  ▶ Tables
    Views
    Stored Procedures
    Functions
▶ sys

Limit to 1000 rows

```sql
43      foreign key(book_id) references CATALOG(book_id) on delete cascade,
44      quantity int
45      );
46 •    show tables;
47 •    desc ORDER_DETAILS;
48 •    SELECT *FROM ORDER_DETAILS;
49 •    insert into AUTHOR(author_id,name,city,country)values(1001,'TERAS CHAN','CA','USA');
50 •    insert into AUTHOR(author_id,name,city,country)values(1002,'STEVENS','ZOMBI','UGANDA');
51 •    insert into AUTHOR(author_id,name,city,country)values(1003,'M MANO','CAIR','CANADA');
52 •    insert into AUTHOR(author_id,name,city,country)values(1004,'KARTHIK B.P','NEW YORK','USA');
```

Result Grid | Filter Rows: Export: Wrap Cell Content: IA

Tables_in_bookdealer
author
catalog
category
order_details
publisher

Result Grid

Form Editor

Administration   Schemas

Local instance MySQL80 ×

File   Edit   View   Query   Database   Server   Tools   Scripting   Help

Navigator:
Insurance   Bookdealer ×

SCHEMAS

Filter objects

▶ database1
▼ insurance
  ▶ Tables
    Views
    Stored Procedures
    Functions
▶ sys

Limit to 1000 rows

```sql
52 •    insert into AUTHOR(author_id,name,city,country)values(1004,'KARTHIK B.P','NEW YORK','USA');
53 •    insert into AUTHOR(author_id,name,city,country)values(1005,'WILLIAM STALLINGS','LAS VEGAS','USA');
54 •    COMMIT;
55 •    desc AUTHOR;
56 •    SELECT *FROM AUTHOR;
57 •    insert into PUBLISHER(publisher_id,name,city,country)values(1,'PEARSON','NEW YORK','USA');
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');
```

Result Grid | Filter Rows: Edit: Export/Import: Wrap Cell Content: IA

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
NULL	NULL	NULL	NULL

Result Grid

Form Editor

Administration   Schemas

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

```sql
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 | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

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

Administration Schemas

Result Grid

Form Editor

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

```sql
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 | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

category_id	description
1001	COMPUTER SCIENCE
1002	ALGORITHM DESIGN
1003	ELECTRONICS
1004	PROGRAMMING
1005	OPERATING SYSTEMS
NULL	NULL

Administration Schemas

Result Grid

Form Editor

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Navigator:

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SCHEMAS

Filter objects

▶ database1
▼ insurance
  ▶ Tables
    Views
    Stored Procedures
    Functions
▶ sys

Limit to 1000 rows

```sql
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 | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: ⊼A

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

Form Editor

Field Types

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Navigator:

Insurance | Bookdealer ×

SCHEMAS

Filter objects

▶ database1
▼ insurance
  ▶ Tables
    Views
    Stored Procedures
    Functions
▶ sys

Limit to 1000 rows

```sql
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 | Filter Rows: | Export: | Wrap Cell Content: ⊼A

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

Form Editor

Field Types

Administration Schemas

Local instance MySQL80 ×

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Navigator:

SCHEMAS

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

```sql
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
      SELECT PRICE FROM CATALOG where year>2000;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

author_id	name	city	country
1005	WILLIAM STALLINGS	LAS VEGAS	USA

Result Grid

Form Editor

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

```sql
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 | Filter Rows: | Export: | Wrap Cell Content:

PRICE
425
333
326

Result Grid

Form Editor

Administration Schemas

CATALOG 30

Read Only

MySQL Workbench

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File   Edit   View   Query   Database   Server   Tools   Scripting   Help

Navigator   Insurance   Bookdealer ×

SCHEMAS

Filter objects

▶ database1
▼ insurance
  ▶ Tables
    Views
    Stored Procedures
    Functions
▶ sys

Limit to 1000 rows

```sql
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   Filter Rows: Export: Wrap Cell Content: IA

name
KARTHIK B.P

Administration   Schemas

MySQL Workbench

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File   Edit   View   Query   Database   Server   Tools   Scripting   Help

Navigator   Insurance   Bookdealer* ×

SCHEMAS

Filter objects

▶ database1
▼ insurance
  ▶ Tables
    Views
    Stored Procedures
    Functions
▶ sys

Limit to 1000 rows

```sql
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='PEARSO
96 • COMMIT;
97 • SELECT *FROM CATALOG;
98
```

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

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

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