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/*01. Produce table Answer01(ISBN) that lists all
ISBN stocked by at least one library */
/* CREATE TABLE ANSWER01 as */
CREATE TABLE ANSWER01 as select isbn from book where
isbn in (select distinct isbn from library) order by
isbn;
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Select distinct isbn from available order by isbn;
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/*02. Produce table Answer02(ISBN) that lists all
the books that are not stocked in (any) library */
/* CREATE TABLE ANSWER02 as */
CREATE TABLE ANSWER02 as
select isbn from book where isbn not in (select
distinct isbn from available) order by isbn;
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/*03. Produce table Answer03(Sname) that lists the
names of all the students who have borrowed a book by
author "Bernard Cushing or a
book by author "Sherman Chow". */
/* CREATE TABLE ANSWER03 as */
CREATE TABLE ANSWER03 as
select sname from student where id in ( select id
from book bk, borrow br where bk.isbn = br.isbn and
author in ('Bernard Cushing',
'Sherman Chow')) order by 1;
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/*04. Produce table Answer04(Sname) that lists the
names of all the students who have borrowed a book by
author "Sam Wang" but not a
book by author "Sherman Chow". */
/* CREATE TABLE ANSWER04 as */
CREATE TABLE ANSWER04 as
select sname from student where id in (select id from
book bk, borrow br where bk.isbn = br.isbn and author
= 'Sam Wang') minus
select sname from student where id in (select id from
book bk, borrow br where bk.isbn = br.isbn and author
= 'Sherman Chow');
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/* 04 IN SQL SERVER (T-SQL) */
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CREATE TABLE ANSWER04 as
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select sname from student where id in (select id from
book bk, borrow br where bk.isbn = br.isbn and author
= 'Sam Wang') except
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select sname from student where id in (select id from
book bk, borrow br where bk.isbn = br.isbn and author
= 'Sherman Chow');
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/*05. Produce table Answer05(ID) that lists all
the students who live in a city from which they
checked out at least one book; that
is checked a book from a library located in the city
they live in. */
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/* CREATE TABLE ANSWER05 as */
CREATE TABLE ANSWER05 as
select s.id from student s, library l, borrow b where
s.id=b.id and s.scity=l.city and b.lname=l.lname;
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/*06. Produce table Answer06(ID1,ID2) that lists
all pairs of students who checked a book with the
same ISBN and ID1 < ID2. Do not
remove duplicate duplicates. */
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/* CREATE TABLE ANSWER06 as */
CREATE TABLE ANSWER06 as
select b1.id as id1, b2.id as id2 from borrow b1,
borrow b2 where b1.isbn = b2.isbn and b1.id < b2.id
order by 1, 2;
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/*07. Produce table Answer07(ID1,ID2) that lists
all pairs of students who checked a book with the
same ISBN and ID1 < ID2. */
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/* CREATE TABLE ANSWER07 as */
CREATE TABLE ANSWER07 as
select distinct b1.id as id1, b2.id as id2 from
borrow b1, borrow b2 where b1.isbn = b2.isbn and
b1.id < b2.id order by 1, 2;
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/*08. Produce table Answer08(ID) that lists all the
students who have borrowed all the books which the
student with ID "384" has
borrowed. */
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/* CREATE TABLE ANSWER08 as */
CREATE TABLE ANSWER08 as
select id from borrow where isbn = all (select isbn
from borrow where id='384');
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/*09.    Produce table Answer09(Sname,Scity) that
lists all the students who have borrowed all books
which the student with ID "710" has
borrowed. Do not remove duplicates. */
/* CREATE TABLE ANSWER09 as */
CREATE TABLE ANSWER09 as
select sname, scity from student where id in (select
distinct id from borrow b1 where not exists ( select
isbn from (select isbn
from borrow where id='710')  where isbn not in
(select isbn from borrow where borrow.id=b1.id)))
order by 1;

/*10.    Produce table Answer10(ISBN,TotalNumber)
that lists for each ISBN  that is stocked by at least
one library the total number of
copies currently available. */
/* CREATE TABLE ANSWER10 as */
CREATE TABLE ANSWER10 as
select isbn, sum(noofcopies) as TotalNumber from
available group by isbn order by 1;

/*11.    Produce table Answer11(ISBN) that lists all
the ISBNs of the books which have been borrowed by at
least 3 students from
libraries in New York. */
/* CREATE TABLE ANSWER11 as */
CREATE TABLE ANSWER11 as
select isbn from (select isbn, count(*) from (select
isbn from borrow b, library l where l.lname=b.lname
and l.city='New York') group
by isbn having count(*) >=3) order by 1;

/*12.    Produce table Answer12(ISBN, CountStudents)
that lists all the ISBNs of books and the total
number of students who borrowed
them, restricting to only those ISBNs that were
borrowed by at least 2 students. */
/* CREATE TABLE ANSWER12 as */
CREATE TABLE ANSWER12 as
select isbn , count(*) as CountStudents from borrow
group by isbn having count(*) >1 order by 1;

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/*13. Produce table Answer13(Title,Author,Total)
that lists for all pairs of Title and Author the
number of different ISBN's. (There
could be several ISBNs written by the same author
with the same title.) */
/* CREATE TABLE ANSWER13 as */
CREATE TABLE ANSWER13 as
select title, author, count(*) as Total from book
group by title, author order by 1;

/*14. Produce table Answer14(ID) that lists all the
names of the students for whom Scity is unknown. */
/* CREATE TABLE ANSWER14 as */
CREATE TABLE ANSWER14 as
select id from student where scity is null;

/*15. Produce table Answer15(ID, Library) that
lists for each person the library he or she borrowed
from, sorted ascending by ID and
descending by Library. */
/* CREATE TABLE ANSWER15 as */
CREATE TABLE ANSWER15 as
select distinct id, lname from borrow order by id
asc, lname desc;

/*16. Increase the number of copies available by 1
for all the ISBNs stocked at "Bobst" */
/* */
update available set noofcopies=noofcopies+1 where
lname='Bobst';

/*17. Remove all the borrow records of the student
with ID "995". */
/* */
delete from borrow where id='995';

/*18. A student with ID "295" just borrowed a book
with ISBN "0521830842" from "Bobst", updates the
database accordingly, that is you need to
modify properly both Borrow and Available. */
/* */
insert into borrow values('295', 'Bobst',
'0521830842');
update available set noofcopies=noofcopies - 1 where
lname='Bobst' and isbn='0521830842';

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/*19.    Add a student "Will Page" with ID "666"
living in New York to the database. */
/* */
insert into student values ('666', 'Will Page', 'New
York');
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/* PRINT RESULTS */
SELECT 'Answer01:' FROM Dual;
SELECT * FROM Answer01;
SELECT 'Answer02:' FROM Dual;
SELECT * FROM Answer02;
SELECT 'Answer03:' FROM Dual;
SELECT * FROM Answer03;
SELECT 'Answer04:' FROM Dual;
SELECT * FROM Answer04;
SELECT 'Answer05:' FROM Dual;
SELECT * FROM Answer05;
SELECT 'Answer06:' FROM Dual;
SELECT * FROM Answer06;
SELECT 'Answer07:' FROM Dual;
SELECT * FROM Answer07;
SELECT 'Answer08:' FROM Dual;
SELECT * FROM Answer08;
SELECT 'Answer09:' FROM Dual;
SELECT * FROM Answer09;
SELECT 'Answer10:' FROM Dual;
SELECT * FROM Answer10;
SELECT 'Answer11:' FROM Dual;
SELECT * FROM Answer11;
SELECT 'Answer12:' FROM Dual;
SELECT * FROM Answer12;
SELECT 'Answer13:' FROM Dual;
SELECT * FROM Answer13;
SELECT 'Answer14:' FROM Dual;
SELECT * FROM Answer14;
SELECT 'Answer15:' FROM Dual;
SELECT * FROM Answer15;
SELECT 'Updated Available:' FROM Dual;
SELECT * FROM Available WHERE LName = 'Bobst';
SELECT 'Updated Borrow:' FROM Dual;
SELECT * FROM Borrow WHERE ID LIKE '%95';
SELECT 'Updated Student:' FROM Dual;
SELECT * FROM Student WHERE ID = '666';
```