## A1-2

(1)

R1🡨 σBranch\_name=’Livermore’ LIBRARY\_BRANCH

R2🡨 σTitle=’The Door to Inferna’BOOK

πBOOK\_COPIES.No\_of\_copies R1⋈ BOOK\_COPIES⋈ R2

(2)

R1🡨 σTitle=’The Door to Inferna’BOOK

πLIBRARY\_BRANCH.Branch\_id, BOOK\_COPIES.No\_of\_copies (R1⋈ BOOK\_COPIES⋈ LIBRARY\_BRANCH)

(3)

R1🡨 πBORROWER.Card\_no (BORROWER⋈BOOK\_LOANS)

R2🡨 πCard\_no BORROWER

πBORROWER.Name (R2-R1) ⋈ BORROWER

(4)

R1(Branch\_id,Books\_count)🡨 Branch\_idG count(BOOK\_COPIES.Book\_id) BOOK\_LOANS

πLIBRARY\_BRANCH.Branch\_name, R1.Books\_count R1⋈LIBRARY\_BRANCH

## A1-3

(1)

select e.Fname, e.Lname

from EMPLOYEE e

join DEPARTMENT d on e.Dno=d.Dnumber

join WORKS\_ON ws on ws.Essn=e.Ssn

join PROJECT p on p.Pnumber=ws.Pno

where d.Dnumber='E1'

and p.Pname='REFACTOR'

and ws.Hours>25;

(2)

select e.Fname, e.Lname

from DEPENDENT d

join EMPLOYEE e e.Ssn=d.Essn

where d.Dependent\_name like concat(e.Fname,'%');

(3)

select e.Fname, e.Lname

from EMPLOYEE e

join WORKS\_ON ws on ws.Essn=e.Ssn

group by e.Fname, e.Lname

having count(ws.Pno)=(select count(Pnumber) from PROJECT);

(4)

select p.Name, sum(ws.Hours) as Total\_hours

from PROJECT p

join WORKS\_ON ws on ws.Pno=p.Pnumber

group by P.Name;

(5)

select e.Lname

from EMPLOYEE e

join DEPENDENT d on d.Essn=e.SSn

where d.Relationship='daughter';

## A1-4

(1)

select t.\*

from TRIP t

join EXPENSE e on e.Trip\_id=t.Trip\_id

where e.Amount>5500;

(2)

select sp.Ssn

from SALESPERSON sp

join TRIP t on t.Ssn=sp.Ssn

where t.To\_city='St.Louis';

(3)

select sum(e.Amount)

from SALESPERSON sp

join TRIP t on t.Ssn=sp.Ssn

join EXPENSE e on e.Trip\_id=t.Trip\_id

where e.Ssn='021-76-5432';