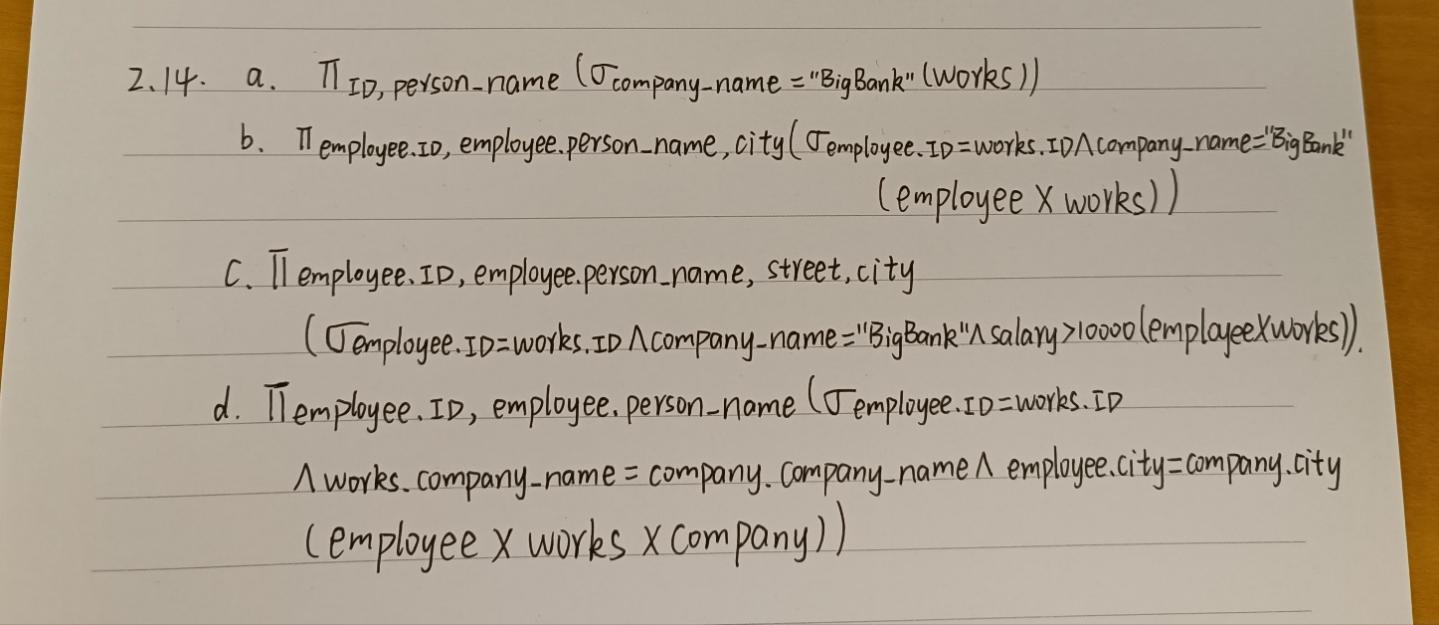
**2.11**

①s\_id将不是advisor关系的主码，因为如果一个学生有多个导师，则s\_id在表中就不唯一了，不能作为主码。

②此时主码由s\_id和i\_id共同组成

**2.14**



**3.16**

a.

**select** employee.ID, person\_name

**from** employee, works, company

**where** employee.ID = works.ID **and** works.company\_name = company.company\_name **and** employee.city = company.city

b.

**select** S.ID, S.person\_name

**from** employee **as** S, employee **as** T, manages

**where** S.ID = manages.ID **and** T.ID = manages.manager\_id **and** S.street = T.street **and**

S.city = T.city

c.

**select** employee.ID, employee.person\_name

**from** employee, works **as** S

**where** employee.ID = S.ID **and** salary > (

**select** **avg**(salary)

**from** works **as** T

**where** S.company\_name = T.company\_name

)

d.

**with** pay\_sum(company\_name, salary\_tot) **as**

(**select** company\_name, **sum**(salary)

**from** works

**group** **by** company\_name),

pay\_sum\_min(salary\_tot\_min) **as**

(**select** **min**(salary\_tot)

**from** pay\_sum)

**select** pay\_sum.company\_name

**from** pay\_sum, pay\_sum\_min

**where** pay\_sum.salary\_tot = pay\_sum\_min.salary\_tot\_min

**3.21**

a.

**select** **distinct** member.memb\_no, member.name

**from** member, book, borrowed

**where** member.memb\_no = borrowed.memb\_no **and** book.isbn = borrowed.isbn **and**

book.publisher = ‘McGraw-Hill’

b.

**select** member.memb\_no, member.name

**from** member

**where not exists**(

(**select** isbn

**from** book

**where** publisher = ‘McGraw-Hill’)

**except**

(**select** isbn

**from** borrowed

**where** borrowed.memb\_no = member.memb\_no)

)

c.

**select** member.memb\_no, member.name

**from** member, book, borrowed

**where** member.memb\_no = borrowed.memb\_no **and** book.isbn = borrowed.isbn

**group** **by** publisher, member.memb\_no, name

**having** **count**(\*) > 5

d.

**select** ((**select** **count**(\*) **from** borrowed) / (**select** **count**(\*) **from** member))

**3.23**

**不使用with语句，改为在having中进行条件筛选，更改后语句如下：**

**select** dept\_name

**from** instructor

**group by** dept\_name

**having sum**(salary) > (

**select** **avg**(value)

**from** (

**select** **sum**(salary)

**from** instructor

**group** **by** dept\_name)

**as** dept\_total (value))