

Ans 1 Union compatibility is a condition that must be met for set operations like Union, intersection & difference. the Union, Intersection & difference operations performed Set-based Manipulation, meaning they work by comparing is combining rows these operations would not make logical sense.

Ans 2 Super Key → A Super Key is any Set of attribute that uniquely identify a row in a table as Super Key have extra attributes.

Ex. Student ID, Phone no, Email

Candidate Key → A candidate key is a minimal Super Key meaning it uniquely identify a row but has no unnecessary attributes

Ex Student ID.

Primary Key → A primary key is the chosen candidate Key that will uniquely identify records in the table It cannot have Null value

Ans 3 Schema

- employee (person-name, street, city)
- works (" " , company, salary)

- Managers (person-name, manager-name)

Expression

$\pi_{\text{person-name}, \text{company-name}} \sigma_{\text{ABC corp (works)}}$

② Find the names of employee who live in the same city as the company they work for

$\rightarrow \pi_{\text{person-name}} (\sigma_{\text{works} \dots \text{employee}} \bowtie \text{employee-city})$
 $= \text{company-city company.}$

③ Retrieve the Name of employee who earn more than \$80,000

$\rightarrow \pi_{\text{person-name}} (\sigma_{\text{salary} > 80000} (\text{works}))$

④ Find the Name of employee who work for "xyz stb" & earn more than \$40,000

$= \pi_{\text{person-name}} (\sigma_{\text{company name} = \text{"xyz stb"}, \text{salary} > 40000} (\text{works}))$

⑤ Find the name of all Managers

$\pi_{\text{manager-name}} (\text{Managers})$

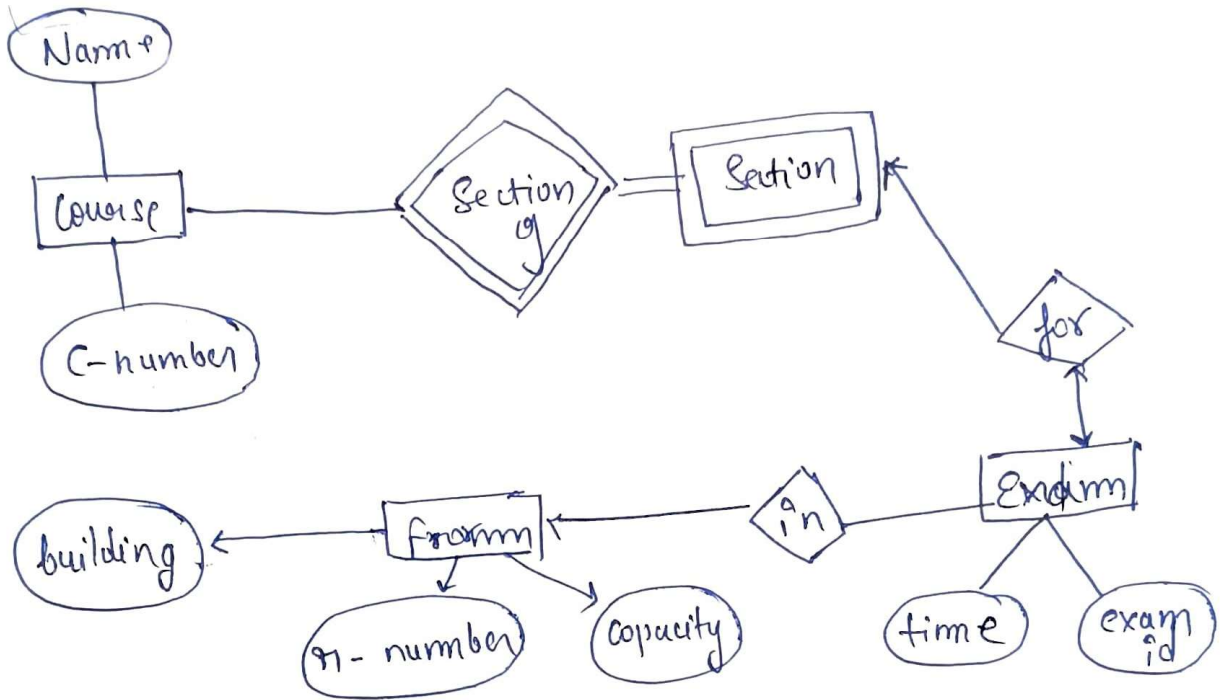
Ans-4

$\text{employee} (\text{person-name}, \text{street}, \text{city})$
 $\text{works} (\quad , \text{company-name}, \text{salary})$
 $\text{company} (\text{company-name}, \text{city})$
 $\text{manages} (\text{person-name}, \text{city})$

$\pi_{\text{person-name}} (\sigma_{\text{company-name} = \text{first bank corporation (works)}}$

$\pi_{\text{person-name, city}} (\sigma_{\text{company-name} = \text{first bank corporation (works) \& employee}})$

Ans 5



Ans 6 @ select * from salesman.

⑥ select city, name from salesman
where city = 'paris'

Ans 7 select * from customers.
where grade = 20;

Ans 8 select order-no, order-date, purchase amount
from orders
where salesman-id = 5001;