Questions

Q1

Find all engineers who spend more than 10 hours per week on some project.

Answer the question by creating a SQL view with the schema shown below, where eid is an engineer's identifier.

CREATE VIEW v1 (eid) AS ;

Q2

Find all employees who specialize in at least two areas: the first area is 'A', and the second area is 'B' or 'C'.

Answer the question by creating a SQL view with the schema shown below, where eid is an employee's identifier.

CREATE VIEW v2 (eid) AS ;

Q3

Find all employees who are located in the office with address 'A'.

Answer the question by creating a SQL view with the schema shown below, where eid is an employee's identifier.

CREATE VIEW v3 (eid) AS ;

Q4

Find all managers who are not supervising any project.

Answer the question by creating a SQL view with the schema shown below, where eid is a manager's identifier.

CREATE VIEW v4 (eid) AS ;

Q5

Find all engineers who spend at most 1 hour per week on every project that she/he works on. Exclude engineers who do not work on any project.

Answer the question by creating a SQL view with the schema shown below, where eid is an engineer's identifier.

CREATE VIEW v5 (eid) AS ;

Q6

For each employee, output (eid,num), where eid is the employee's identifier, and num is defined as follows.

- if the employee is a manager, then num denote the number of departments managed by that manager,
- if the employee is an engineer, then num denote the number of projects that that the engineer works on,
- otherwise, num should have a value of 0.

Answer the question by creating a SQL view with the schema shown below, where eid is an employee's identifier and num is an integer value as defined.

CREATE VIEW v6 (eid, num) AS ;

Q7

Find all projects where the number of engineers who work on that project is exactly two.

Answer the question by creating a SQL view with the schema shown below, where eid and eid2 are the identifiers of the only two engineers who work on the project with identifier pid such that eid < eid2.

CREATE VIEW v7 (pid, eid, eid2) AS ;

Q8

For each specialization area A, find the number of distinct departments that have some employee who belongs to that department and specializes in area A. The number reported should be 0 if none of the employees specialize in A.

Answer the question by creating a SQL view with the schema shown below, where aid is a specialization area's identifier, and num denote the number of distinct departments with some employee who specializes in area aid.

CREATE VIEW v8 (aid, num) AS ;

Q9

We say that a **department D is managing a project P** if the manager who is supervising P belongs to D. Find projects where the number of engineers who work on that project is more than the number of employees who belong to the department that is managing that project.

Answer the question by creating a SQL view with the schema shown below, where pid is a project's identifier.

CREATE VIEW v9 (pid) AS ;

Q10

We say that a **manager M manages an engineer E** if E belongs to a department that is managed by M. We say that a **manager M supervises an engineer E** if E works on some project that is supervised by M. We say that a **manager M is controlling** if for every engineer E that is managed by M, either E is not supervised by any manager or E is supervised by only M and no other manager. Find all controlling managers. Include managers who do not manage any engineers.

Answer the question by creating a SQL view with the schema shown below, where eid is a manager's identifier.

CREATE VIEW v10 (eid) AS ;