

Part III: Creating Relational Schemas in SQL – Explanation

Employees work in departments; each department is managed by exactly one employee. This is a key constraint. We map the relationship to a table with just one primary key field. *Employees'* primary key is *ssn*, and *departments'* primary key is *dno*. As stated in the specification, *Children* is uniquely identified by *name* when the parent is known. Since we are not interested in the information about a child once the parent leaves the company, *Children* is a weak entity which cascades on delete of the parent from *Employees* since it is a participation constraint.

Departments and *Managed by* have been combined into one table. On delete, it will just remove the relation along with department with the integrity constraint of having exactly one manager. For *works in*, will be deleted on cascade assuming there must be someone working in a department (aka manager and other employees).

Since “every department has exactly one manager” is already stated in the specification, solution for part b would not be any different from part a.