

Problem 1.

A company, XYZ, Inc., has analyzed the data attributes that they want to track in their database.

They used the data attributes below to answer to develop an ER diagram...

Data attributes for the XYZ Inc.

Department name
Job Title
Social security numbers (SSN) for their employees
Employee name, address and phone number
Employee department number and job code
Salary for employee
Job Description for employee

Here is a simple Entity-Relationship diagram that models this data...

DEPARTMENT ---< Employee >--- Job

QUESTION:

Describe the relationship shown between the Department and Employee.

Describe the relationship shown between the Employee and Job.

(Use words, there is no SQL needed)

Describe the relationship shown between the Department and Employee.

Each department has many Employees, but each Employee works for one department.
(EX someone that works in electronics) So it is a one-to-many relationship.

Describe the relationship shown between the Employee and Job.

Each Employee has a job title, but each job title could have many employees.(EX such as a cashier) So it is a one-to-many relationship.

Problem 2.

A company, XYZ, Inc., has analyzed the data attributes that they want to track in their database.

They used the data attributes below and applied the Normalization Guidelines to develop a data model using Relational Notation format.

Data attributes for the XYZ Inc.

Department name

Job Title

Social security numbers (SSN) for their employees

Employee name, address and phone number

Employee department number and job code

Salary for employee

Job Description for employee

Here is a simple Relational Notation diagram that models this data...

EMPLOYEE(emp_id-PK, firstname, lastname, address, city, state, zip, phone, salary, deptnum-FK, jobcode-FK)

DEPARTMENT(deptnum-PK, name)

JOB(jobcode-PK, title, description)

QUESTION:

What is the purpose of the "deptnum- FK" (Foreign Key) in the EMPLOYEE table? What relationship between entities does it enforce?

(Use words, there is no SQL needed)

What is the purpose of the "deptnum- FK" (Foreign Key) in the EMPLOYEE table?

To reference the Department table while avoiding data redundancy .

What relationship between entities does it enforce?

Enforces third normal form.