

10127 Database Systems

Lab 2

Entity Relationship Diagrams

Draw an ERD for a company.

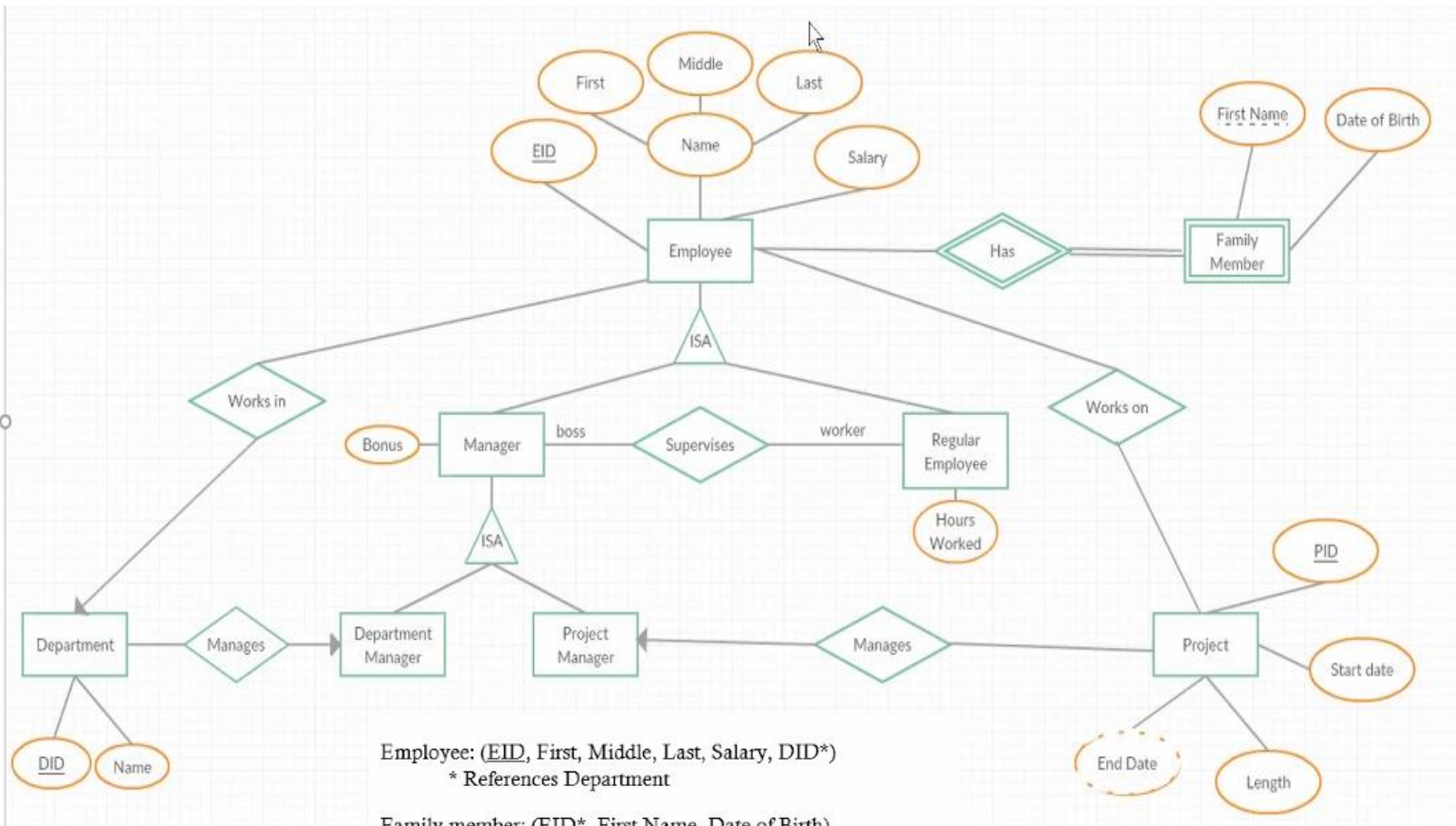
Employees of the company have an employee ID, a name (first, middle, last), and a salary. Employees also have family members that the company keeps information about, in order to send them cards on their birthday. For each family member, the company keeps a first name and a birth date.

Employees can be regular employees or managers. Managers can be project managers or department managers. For regular employees, the company stores the number of hours worked every week so they can get extra pay if they work more than 40 hours. Managers do not keep track of their hours, but they do get a bonus at the end of the year. The bonus amount is stored with the manager info. Managers supervise regular employees, but a manager can supervise many employees, and an employee can have more than one manager (for example, if the employee is working on more than one project). Project managers can manage more than one project. Each project manager has a number of projects that s/he manages.

Employees work in departments. A department has an ID and a name. Each employee works in one department. Each department has exactly one manager.

The work in the company is divided into projects. A project has a project ID, a start date, and an expected length. The end date is calculated from the start date and length. Each project has one project manager. Employees can work on several projects at the same time.

SOLUTION



Employee: (EID, First, Middle, Last, Salary, DID*)
* References Department

Family member: (EID*, First Name, Date of Birth)

Regular Employee: (EID*, Hours Worked)
* References Employee

Manager: (EID*, Bonus)
* References Employee

Department Manager: (EID*)
* References Employee

Project Manager: (EID*)
* References Employee

Department: (DID, Name, MID*)
* References Manager

Project: (PID, Start Date, Length, MID*)
* References Manager

Supervises: (EID*, MID**)
 * References Regular Employee
 ** References Manager

Works on: (EID*, PID**)
 * References Employee
 ** References Project