The Company Database

Database in our textbook

Relational Database

- Tables of Tuples
- Data Structured by Foreign Keys
- Main Entities in DB:
  - Employees, Dependents
  - Projects
  - Departments, Dept_Locations
- One M:N Relation:
  - Works_On
NOTE

This Explanation omits many inessential fields from the database

Department and Projects

- Departments Own Projects
- Like they Own Employees
Departments have Several Locations

- Departments own a number of locations.

Employees have Dependents

- Employees Own Dependents
Employees Supervise Employees

- **Key**: underlined
- **Arrow**: represents foreign key

```
EMPLOYEE  
| SSN | SUPERSSN | DNO |
```

Employees and Departments

- **Arrows**: represent foreign keys
- **Keys**: underlined

```
DEPARTMENT  
| DNUMBER | MGRSSN |
```

```
EMPLOYEE  
| SSN | DNO |
```

- Joe is a Dept 5 employee if his DNO = 5
- Sally manages Marketing, if Marketing’s **MGRSSN = Sally’s SSN**
Employees Work On Projects

Arrows represent foreign keys

- This setup allows Employees to work on several projects and vice versa
- HRS: This week Employee ESSN is assigned to Project PNO for HRS hours.
- One WORKS_ON tuple connects one EMPLOYEE and one PROJECT

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Company Database

DEPARTMENT
- DNUMBER
- MGRSSN

WORKS_ON
- ESSN
- HRS
- PNO

PROJECT
- PNUMBER
- DNUM

DEPARTMENT
- DNUMBER
- DLOCATION

DEPENDENT
- ESSN
- DEP_NAME

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