

Joining Tables

Dataforståelse 5

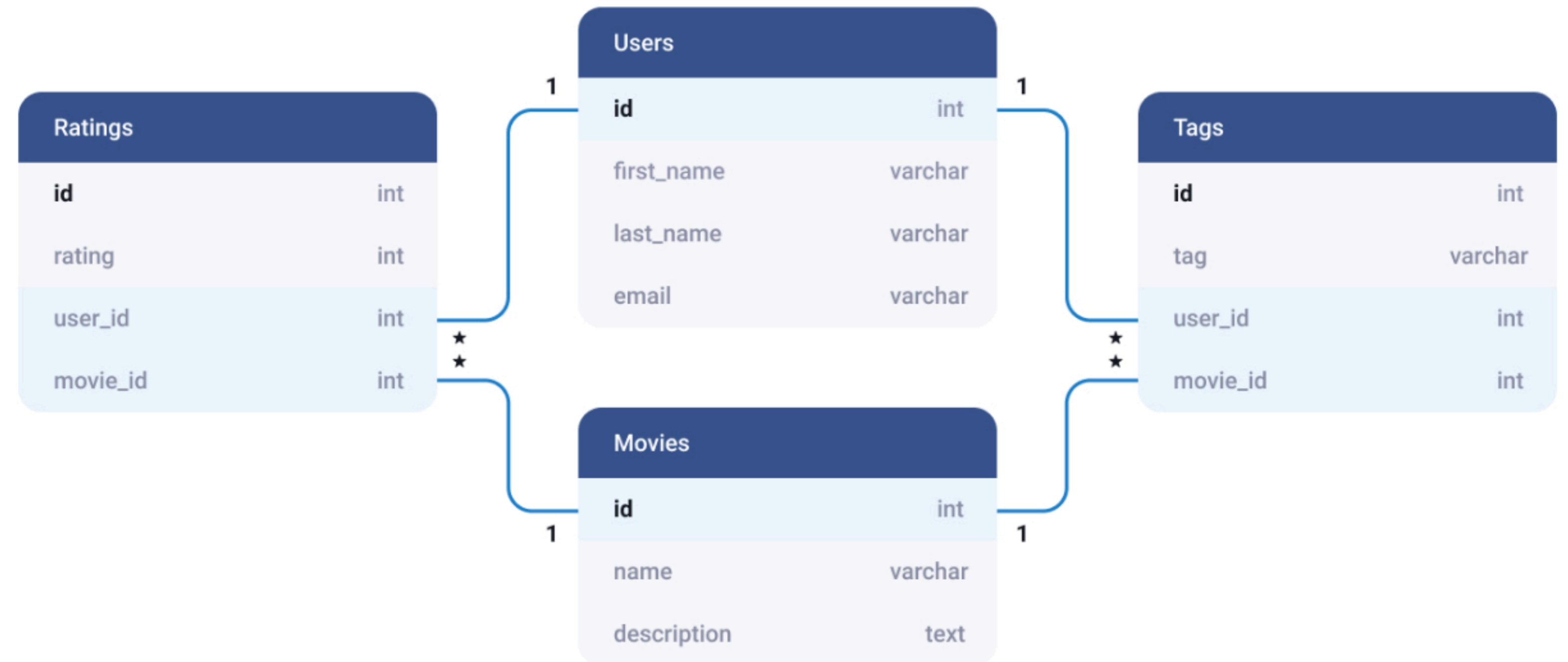
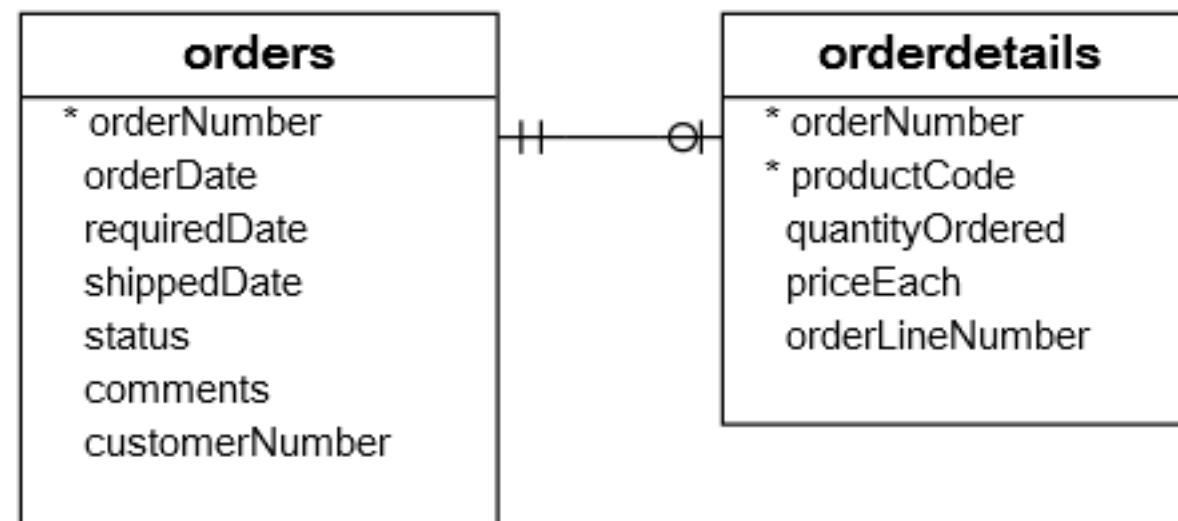
Joining tables

Dataforståelse 5

- Finishing Data Cleaning project
- Primary Key / Primærnøgle
- Foreign Key / Fremmednøgle
- Joining Tables

Finishing data cleaning project

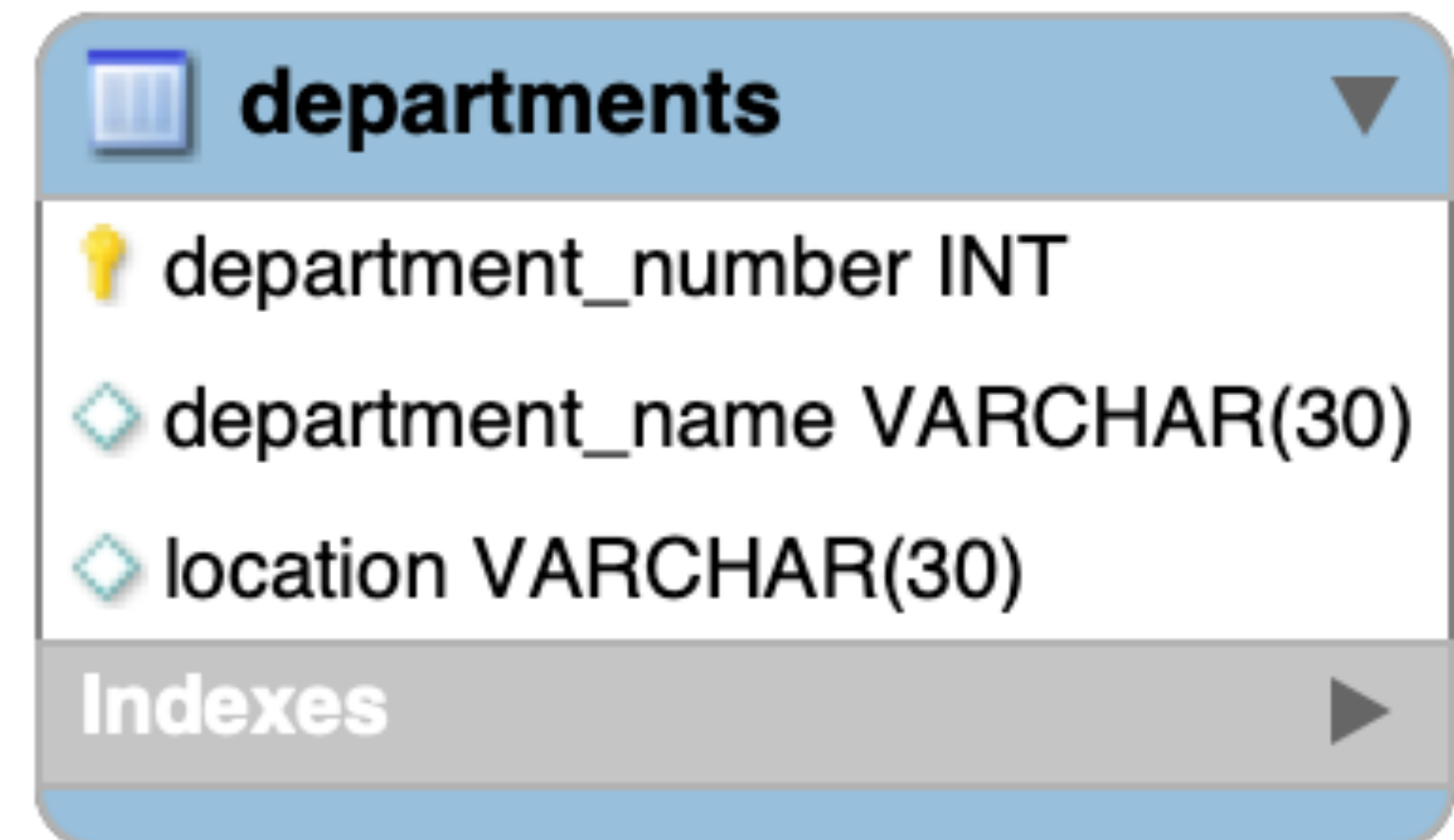
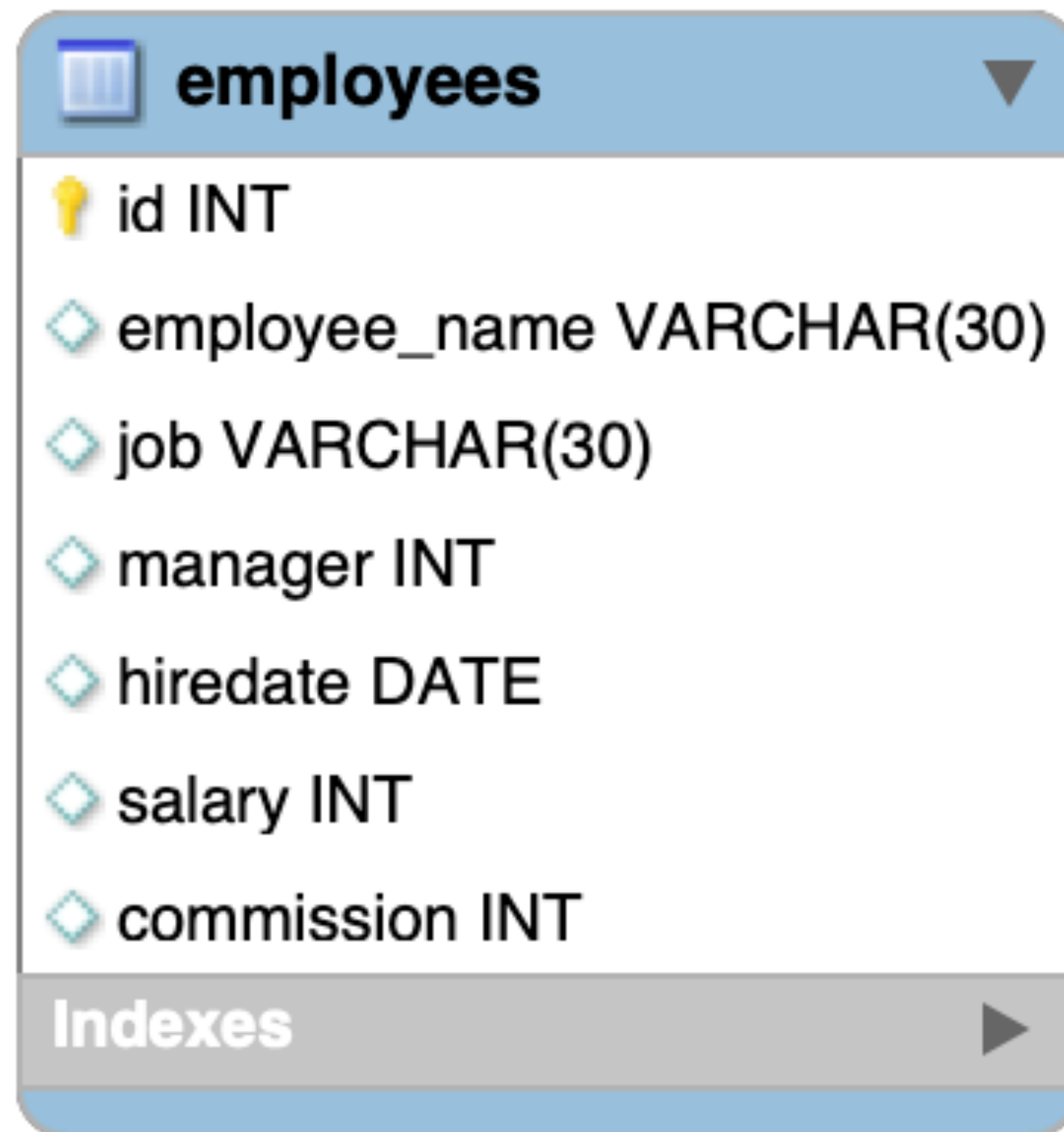
The *Relational* Database Model?



Case: Employees & Departments

(Enhanced) Entity Relationship Diagram

EER



How are these **related**?

```
SELECT *  
FROM departments;
```

department_number	department_name	location
10	ACCOUNT...	NEW YORK
20	RESEARCH	DALLAS
30	SALES	CHICAGO
40	OPERATIO...	BOSTON

```
SELECT employee_name, job, department_number  
FROM employees;
```

employee_name	job	department_number
SMITH	CLERK	20
ALLEN	SALESMAN	30
WARD	SALESMAN	30
JONES	MANAGER	20

End Goal: Overview of who works
at what department

Relationship between employee and department

department_number	department_name	location	employee_name	job	department_number
10	ACCOUNT...	NEW YORK	SMITH	CLERK	20
20	RESEARCH	DALLAS	ALLEN	SALESMAN	30
30	SALES	CHICAGO	WARD	SALESMAN	30
40	OPERATIO...	BOSTON	JONES	MANAGER	20

Primary Key

department_number	department_name	location
10	ACCOUNT...	NEW YORK
20	RESEARCH	DALLAS
30	SALES	CHICAGO
40	OPERATIO...	BOSTON

employees
id INT
employee_name VARCHAR(30)
job VARCHAR(30)
manager INT
hiredate DATE
salary INT
commission INT
Indexes

End Goal: Who works at what department?

```
SELECT *  
FROM departments  
INNER JOIN employees  
ON departments.department_number = employees.department_number;
```

Output:

department_number	department_name	location	id	employee_name	job	manager	hiredate	salary	commission	department_number
10	ACCOUNTING	NEW YORK	7782	CLARK	MANAGER	7839	09/06/1981	2450	NULL	10
10	ACCOUNTING	NEW YORK	7839	KING	PRESIDENT	NULL	17/11/1981	5000	NULL	10
10	ACCOUNTING	NEW YORK	7934	MILLER	CLERK	7782	23/01/1982	1300	NULL	10
20	RESEARCH	DALLAS	7369	SMITH	CLERK	7902	17/12/1980	800	NULL	20
20	RESEARCH	DALLAS	7566	JONES	MANAGER	7839	02/04/1981	2975	NULL	20
20	RESEARCH	DALLAS	7788	SCOTT	ANALYST	7566	19/04/1987	3000	NULL	20
20	RESEARCH	DALLAS	7876	ADAMS	CLERK	7788	23/05/1987	1100	NULL	20
20	RESEARCH	DALLAS	7902	FORD	ANALYST	7566	03/12/1981	3000	NULL	20
30	SALES	CHICAGO	7499	ALLEN	SALESMAN	7698	20/02/1981	1600	300	30
30	SALES	CHICAGO	7521	WARD	SALESMAN	7698	22/02/1981	1250	500	30
30	SALES	CHICAGO	7654	MARTIN	SALESMAN	7698	28/09/1981	1250	1400	30
30	SALES	CHICAGO	7698	BLAKE	MANAGER	7839	01/05/1981	2850	NULL	30
30	SALES	CHICAGO	7844	TURNER	SALESMAN	7698	08/09/1981	1500	0	30
30	SALES	CHICAGO	7900	JAMES	CLERK	7698	03/12/1981	950	NULL	30

End Goal: Overview of who works at what department

```
SELECT *  
FROM departments  
INNER JOIN employees  
ON departments.department_number = employees.department_number;
```


End Goal: Who works in the sales department?

```
SELECT *  
FROM departments  
INNER JOIN employees  
ON departments.department_number = employees.department_number  
WHERE departments.department_name = "SALES";
```

Exercises 1

[https://
pairs.austincodingacademy.com/](https://pairs.austincodingacademy.com/)

Pair Programming: Exercise 2