

Intro to Relational Data Model

CS 327E

Jan 22, 2018

Basic Terminology:

- Relational model
- Relation / Entity Type / Table
- Field / Attribute / Column
- Row / Entity / Tuple / Record
- Cell / Value
- Primary key
- Composite primary key
- Foreign key
- Constraint
- Schema

Employee

<u>empid</u>	firstname	lastname	state	depid
2	Michael	Dell	TX	5
23	Betty	Jennings	PA	
3	Bill	Gates	WA	5
5	Kay	McNulty	PA	8
6	Jim	Gray	CA	6
37	Gordon	Moore	CA	6

Department

<u>depid</u>	deptname
5	Executive
6	Research
7	Sales
8	Engineering

Common Data Types:

- CHAR, VARCHAR
- INTEGER
- NUMERIC
- SERIAL
- BOOLEAN
- DATE, TIMESTAMP
- TEXT, BLOB
- JSON, XML

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Relationships:

- One-to-one (1:1)
- One-to-many (1:m)
- Many-to-many (m:n)
- Many-to-one (m:1)

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Practice Problem #1

What is the relationship between `Customer` and `Order`?

Customer

<u>cust_id</u>	cust_name	cust_city
1	Paul Gore	Austin
2	Jerry Hargrove	Portland
3	Lara Wells	Houston
6	Kevin O'Connor	NYC
7	Brian Zender	San Antonio

Order

<u>order_id</u>	cust_id	order_date	amount
1000	1	2017-08-01	5.00
1001	3	2017-08-01	5.00
1202	1	2017-09-01	3.00
203	2	2016-10-19	10.00
204	6	2016-10-20	100.00
205	7	2016-10-21	7.00
700	2	2016-10-22	25.00
705	1	2016-10-22	500.00

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a) 1:m b) m:1 c) m:n d) 1:1