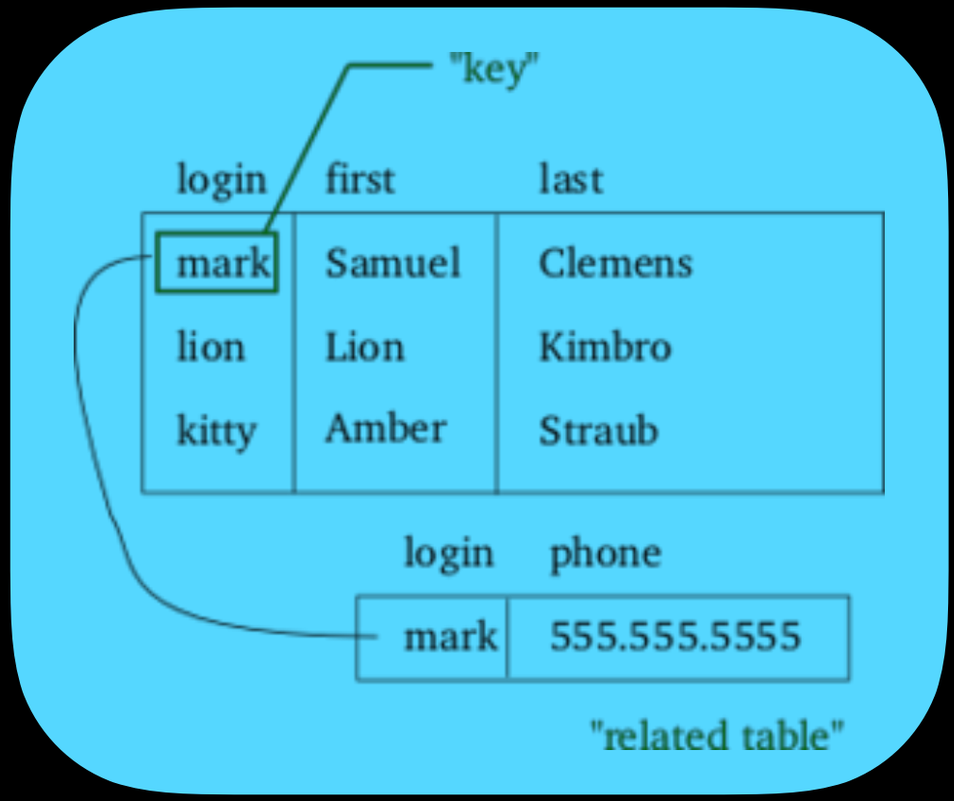
RELATIONAL DATABASES

- Relational databases emerged in the 70s to store data according to a schema that allows data to be displayed as tables with rows and columns.

- RDBMSs (Relational Database Management Systems) all provide functionality for reading, creating, updating, and deleting data, typically using Structured Query Language (SQL) statements.

- SQL is a database management language for relational databases.



NOSQL/NON-RELATIONAL DATABASES

- As web applications became increasingly complex, NoSQL databases are an increasingly popular alternative to relational databases.
- The critical difference between NoSQL and relational databases is that RDBMS schemas rigidly define how all data inserted into the database must be typed and composed.
- By contrast, see the image to your right: It can allow unstructured and semi-structured data to be stored and manipulated.

Key	Document
1001	{ "CustomerID": 99, "OrderItems": [{ "ProductID": 2010, "Quantity": 2, "Cost": 520 }, { "ProductID": 4365, "Quantity": 1, "Cost": 18 }], "OrderDate": "04/01/2017" }
1002	{ "CustomerID": 220, "OrderItems": [{ "ProductID": 1285, "Quantity": 1, "Cost": 120 }], "OrderDate": "05/08/2017" }

- By contrast, see the image to your right: It can allow unstructured and semi-structured data to be stored and manipulated.

JSON

```
{
  "CustomerID": 550,
  "OrderItems": [
    {"ProductID": 2582,
     "Quantity": 1,
     "Cost": 150
    }],
  "OrderDate": "02\08\2017"
}
```