Using Databases & SQL

3 hours | No Prerequisites | At your campus | $ No cost to members

```
sqlite> SELECT * FROM visited;
id          site        dated
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619         DR-1        1927-02-08
622         DR-1        1927-02-10
734         DR-3        1939-01-07
735         DR-3        1930-01-12
751         DR-3        1930-02-26
752         DR-3
837         MSK-4       1932-01-14
844         DR-1        1932-03-22
```

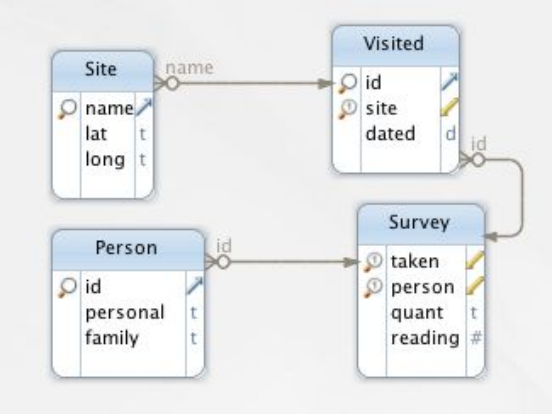


```
sqlite> SELECT site.name, dated, survey.qua
": " || survey.reading AS reading, person.i
 site
   ...> JOIN visited ON visited.site = site
   ...> JOIN survey ON visited.id = survey.
   ...> JOIN person ON person.id = survey.p

name   dated                reading  id
-----  -----------  --------------  -----
DR-1   1927-02-08          rad: 9.82  dyer
DR-1   1927-02-08          sal: 0.13  dyer
DR-1   1927-02-10           rad: 7.8  dyer
DR-1   1927-02-10          sal: 0.09  dyer
DR-1   1932-03-22         rad: 11.25  roe
DR-3   1939-01-07          sal: 0.05  lake
DR-3   1939-01-07           rad: 8.41  pb
DR-3   1939-01-07         temp: -21.5  pb
DR-3   1930-01-12           rad: 7.22  pb
```

Why do this course?

A relational database is an extremely efficient, fast and widespread means of storing structured data, and Structured Query Language (SQL) is the standard means for reading from and writing to databases. Databases use multiple tables, linked by well-defined relationships, to store large amounts of data without needless repetition while maintaining the integrity of your data..

Moving from spreadsheets and text documents to a structured relational database can be a steep learning curve, but one that will reward you many times over in speed, efficiency and power.

Developed using the researcher-focused training modules from the highly regarded Software Carpentry Foundation (software-carpentry.org).

You'll learn how to:

- Understand and compose a query using SQL
- Use the SQL syntax to select, sort and filter data
- Calculate new values from existing data
- Aggregate data into sums, averages, and other operations
- Combine data from multiple tables
- Design and build your own relational databases

The Intersect approach to training

At Intersect, we work closely with our member universities to develop and deliver training that targets the day-to-day software and technology problems that researchers face. We deliver hands-on courses in a relaxed setting with knowledgeable, helpful trainers who are themselves researchers and who know how researchers work.

Questions always welcome.

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