$ 200 000 000

$ 200 000 000 +
$ 13 000 000 / year

Both owned by Larry Ellison, CEO of Oracle
It pays to know databases !

Course: CMSC 424 – Database design
Instructor: Mihai Pop
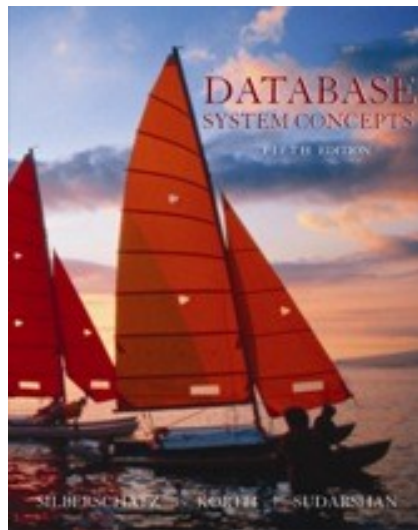Times: TuTh 11:30-12:15
Location: CSIC 1121

Textbook: Database systems concepts.
          Silberschatz, Korth, Sudarshan
          McGraw Hill, ISBN 978-0-07-295886-7

Sailboats and databases seem to go hand in hand ...

What you will learn

- Models for data representation – Entity-relationship, relational
- SQL (structured query language) – language for interacting with databases
- Schema normalization – how to represent data efficiently
- Data storage – how databases store data on a disk
- Query processing and optimization – how a database decides how to most efficiently answer a query
- Transactions, concurrency and recovery – how databases deal with multiple users and with failures
- Parallel/distributed databases
- Databases on the web

Workload

- Exams: 2 midterms, 1 final
- Projects: 1 group programming project - build a database that does something cool (TBA)
- Homeworks: ~4 homeworks throughout the semester (some include SQL programming)

- Grading:
  - homeworks 10%
  - midterms 25%
  - final 25%
  - project 40%

- Attendance and academic honesty policies follow university guidelines:
  - absences must be justified in writing (e.g. doctor's note)
  - no excuses will be accepted for cheating

Why go through all this?

- Database administrators are paid well
- Databases are everywhere (i.e. lots of job opportunities)
  - E.g. Google
  - at the doctor's office
  - payroll systems
  - on Wall Street
  - government (e.g. CIA)
  - scientific data
- Database research offers many exciting opportunities
  - Internet technologies
  - handling huge amounts of data
  - etc.