CS222: Principles of Data Management

Lecture #16: Open Topics and Wrap up

Instructor: Chen Li
Other indexing techniques

- Spatial: R-tree
- Text: inverted index
R-Tree
R-Tree
Text indexing: Inverted index

Brutus

Calpurnia

Caesar

2 4 8 16 32 64 128

1 2 3 5 8 13 21 34

13 16
DBMS architecture revisited

- Query Parser
- Query Optimizer
- Plan Executor
- Relational Operators (+ Utilities)
- Files of Records
- Access Methods (Indices)
- Buffer Manager
- Disk Space and I/O Manager
- Data Files
- Index Files
- Catalog Files
- Transaction Manager
- Lock Manager
- Log Manager
- WAL

SQL
Query plans
API calls

(CS 223)
So Where To From Here?

- CS 223: Transaction Processing and Distributed Data Management
- CS 224: Advances in Database Management System Technology
- More hands-on experiences….
"NoSQL" Big Data Analysis Platforms
My Data Management projects

- AsterixDB/Cloudberry: https://github.com/ISG-ICS/cloudberry
  - Interactive data analytics and visualization
- TextDB: https://github.com/TextDB/textdb
  - Text-centric data management system for information extraction
SO MUCH TO DO

SO LITTLE TIME
GOOD LUCK ON THE FINAL
AND MAY THE ODDS BE EVER IN YOUR FAVOR