

Lecture 12: Algorithms for querying databases/web

Core 109S IDWT?, Spring 2017

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Joins

- Discuss algorithms for computing a join on the board.
- Join two tables R and S where $R.a = S.b$. We will model each table as an array where $R[i]$ holds the i th record of R . So, $R[i].a$ refers to the value of attribute a on the i th record.

Exercise

Instructions: ~2 minute to think/
answer on your own; then discuss with
neighbors; then I will call on one of you

- What is the runtime of the "nested loops" join algorithm?

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- Compare the "loop + binary search" algorithm with the "sort-merge" algorithm. How do their runtimes compare?
- Suppose my database is always changing (new rows are being added and deleted to each table). How might this impact each strategy?

