

ACM-DB Lab4

This is the answer document for lab4.

Design Choices

1. Exercise 1:
 - Implement the histogram method as the doc says.
2. Exercise 2:
 - Implement the simple heuristic method as the doc says.
3. Exercise 3:
 - Implement the estimation as the doc says.
4. Exercise 4:
 - Implement `orderingJoins()` following the pseudo code in the doc.
 - In `JoinOptimizer.java`, use `HashEquiJoin()` if predicate is `EQUALS` for a little speedup.

Changes to API

- A new method `numPages()` in `DbFile.java`, used to get the number of pages in a single `DbFile`.

Missing Components

I believe None

Time Spent

1 week

- Stuck on the time limit in `QueryTest.join` for some time. Then I took advantage of `HashEquiJoin()` which is implemented in lab3 to get a little speedup. Ta-da! It works.