

CSE 350

Advanced Data Structures

Midterm Review!

A, B, C, D, E

FD: AB → C, D

ABC → D, E

↑ all attr: super key

One Primary key

ABCDE →

↑ Candidate key

ABD → CE

2nd Normal Form

entity

A → B, C → D, E

A → B

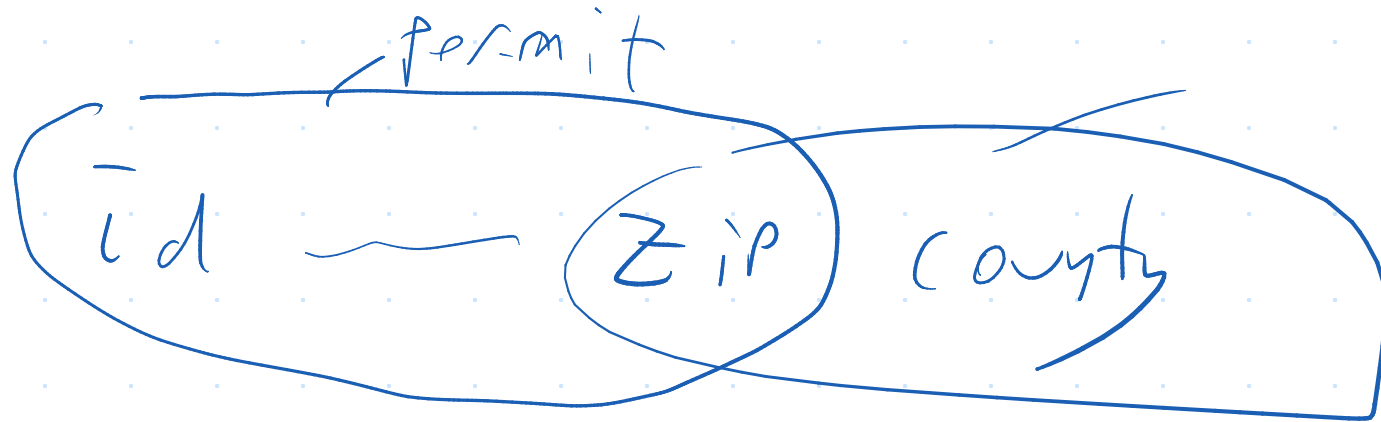
3rd

B → C, D, E

AC → B, D, E

AC

Permits



id — zip ~~zip~~ county

id

1

2

3

4

—
—

zip

14250

ERIE

14250

ERIE

14250

ERIE

14250

ERIE

zip

14250 ERIE

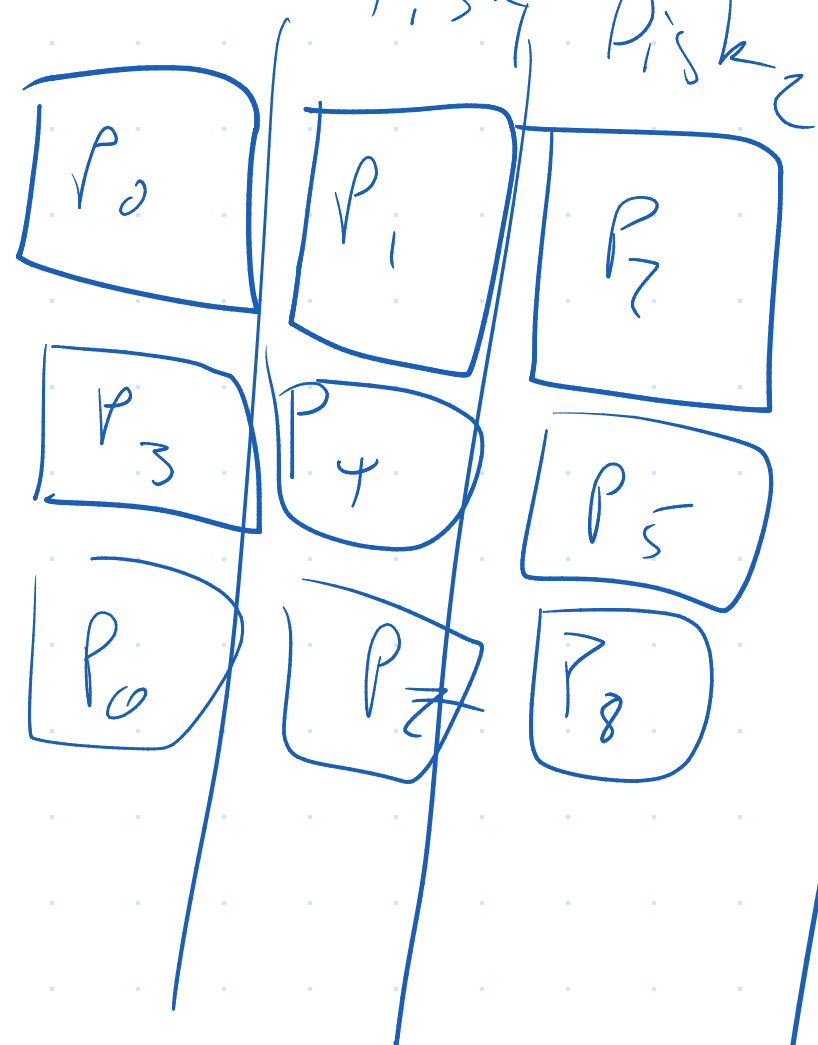
Rel Alg

- Filter — Retain only rows matching cond
- Project — Rewrite each row
- Join — combine pairs of rows from 2 tables
- Union — concatenate 2 table
- Aggregate — Summarize a table
- Natural Join \rightarrow Equality on attributes w/ same name

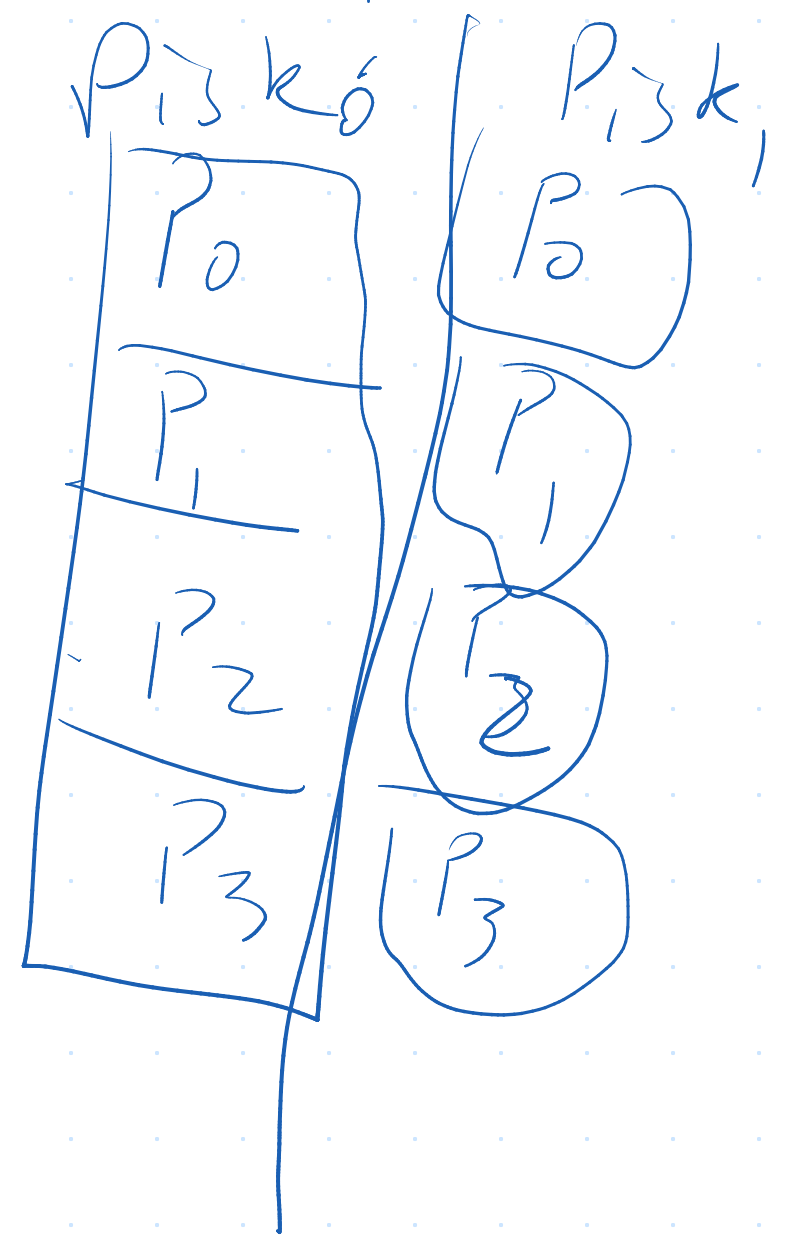
SQL

- \hookrightarrow SQL Results
- \hookrightarrow SQL vs Rel Alg

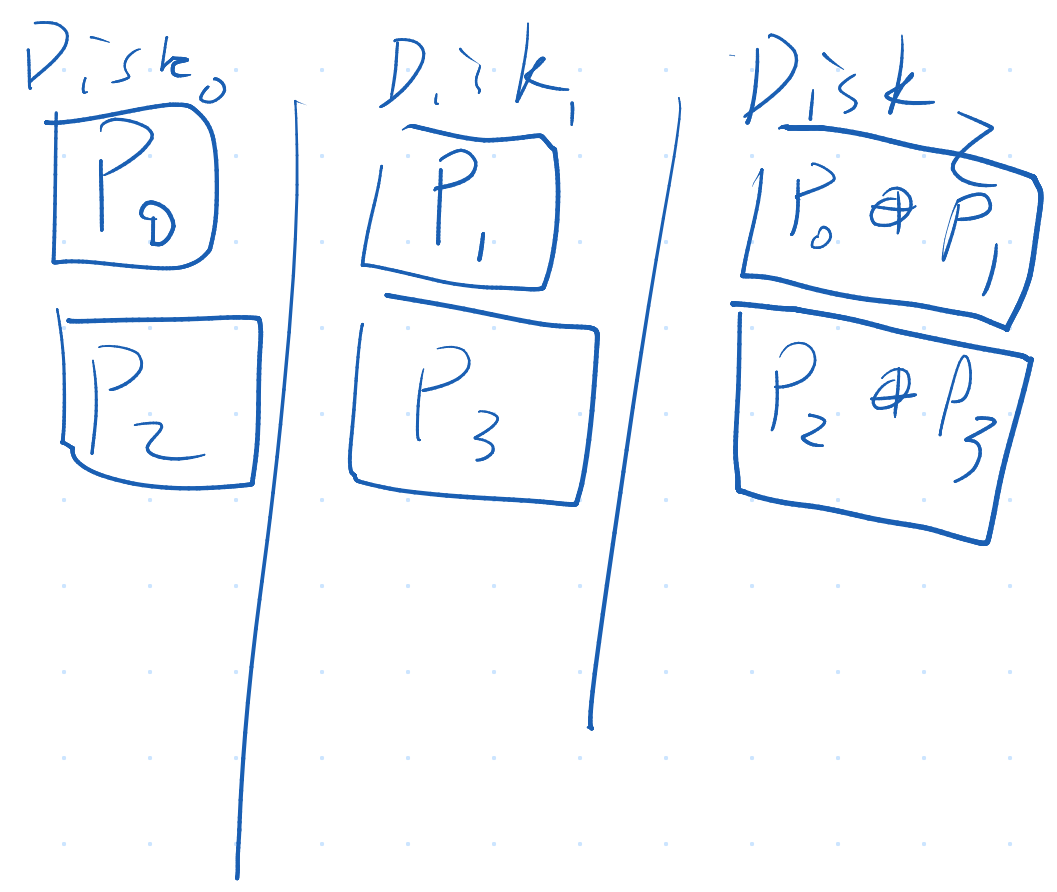
Level 0: Stripping
Disk₀ Disk₁ Disk₂



Level 1: Mirroring
Disk₀ Disk₁



Level 4 Parity



L5: Rotating Parity

