Query Optimization

Exercise Session 7

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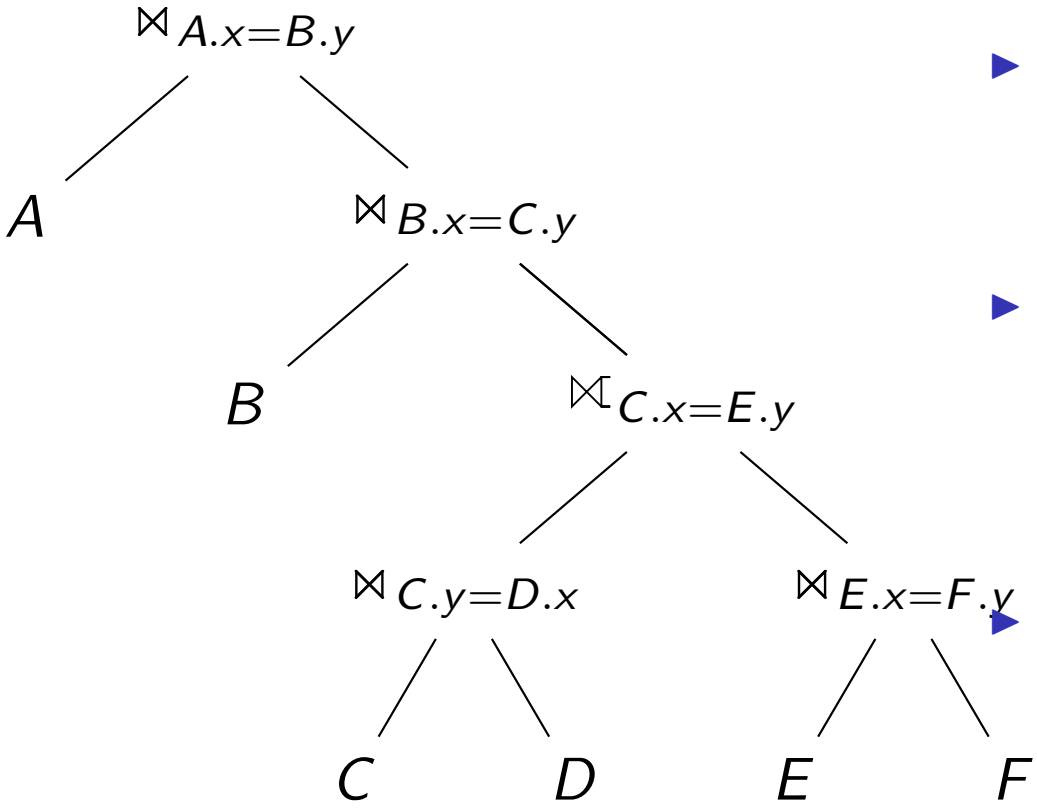
December 19, 2016

Homework

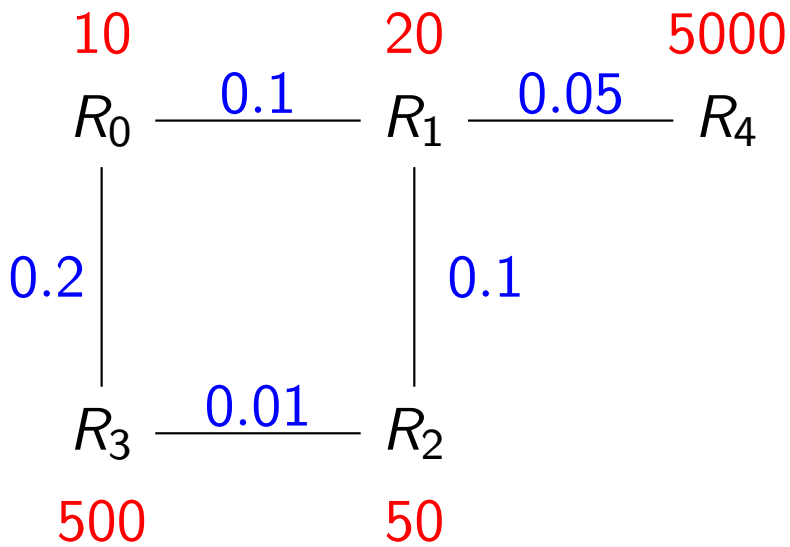


- Syntactic eligibility set - relations that have to be in the input
- Total eligibility set - captures also reordering restrictions, construct bottom-up
- Conflicts: $\bowtie_{C.x=E.y}$ and $\bowtie_{C.y=D.x}$, $\bowtie_{C.x=E.y}$ and $\bowtie_{B.x=C.y}$

Homework: Graph Simplification

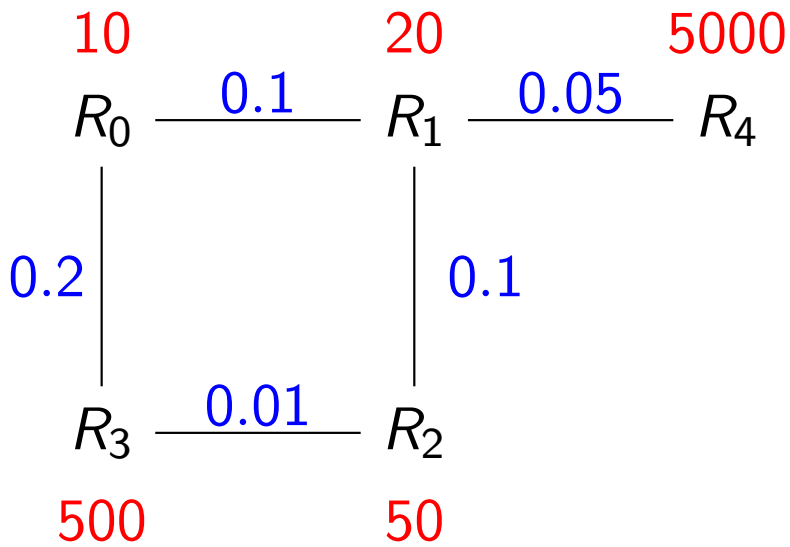
Important: consider all possible edge combinations, that is,
$benefit(R_0 \bowtie R_1, R_0 \bowtie R_2)$ together with
$benefit(R_0 \bowtie R_2, R_0 \bowtie R_1)$

Homework: Graph Simplification



- $benefit(R_0 \bowtie R_1, R_0 \bowtie R_3) = \frac{202}{300}$
- $b(R_0 \bowtie R_3, R_0 \bowtie R_1) = 300/202$
- $b(R_1 \bowtie R_2, R_1 \bowtie R_0) = 20/12$
- $b(R_3 \bowtie R_0, R_3 \bowtie R_2) = 2$
- $b(R_2 \bowtie R_3, R_2 \bowtie R_1) = 5/4$
- $b(R_1 \bowtie R_4, R_1 \bowtie R_0) = 500/251$
- $b(R_1 \bowtie R_4, R_1 \bowtie R_3) = 300/251$
- $R_3 \bowtie R_2$ before $R_3 \bowtie R_0$. Remove $R_3 - R_0$

Homework: Graph Simplification



- $benefit(R_0 \bowtie R_1, R_0 \bowtie R_3) = \frac{202}{300}$
- $b(R_0 \bowtie R_3, R_0 \bowtie R_1) = 300/202$
- $b(R_1 \bowtie R_2, R_1 \bowtie R_0) = 20/12$
- $b(R_2 \bowtie R_3, R_2 \bowtie R_1) = 5/4$
- $b(R_1 \bowtie R_4, R_1 \bowtie R_0) = 500/251$
- $b(R_1 \bowtie R_4, R_1 \bowtie R_3) = 300/251$
- $b(R_0 \bowtie (R_3 \bowtie R_2), R_0 \bowtie R_1) = \frac{C((R_0 \bowtie (R_3 \bowtie R_2)) \bowtie R_1)}{C((R_0 \bowtie R_1) \bowtie (R_3 \bowtie R_2))} = 850/370$
- $b((R_2 \bowtie R_3) \bowtie R_0, R_2 \bowtie R_1) = \frac{C(((R_2 \bowtie R_3) \bowtie R_0) \bowtie R_1)}{C((R_2 \bowtie R_3) \bowtie R_1) \bowtie R_0)} = 1$
- $R_0 \bowtie R_1$ before $R_0 \bowtie (R_3 \bowtie R_2)$

Questions

Questions on the lecture so far?

Info

- Exercises due: 9 AM, January 9, 2017