

Query Optimization

2. Exercise

Johannes Merkle

Ralf Vogler

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Exercise 1

Part 1

The expressions are not equal. Example:

R	
A	B
a_1	b_1
a_1	b_2
a_2	b_1

S	
A	B
a_1	b_1

results in

$\Pi_A(R - S)$	
A	
a_1	
a_2	

$\Pi_A(R) - \Pi_A(S)$	
A	
a_2	

2

R	
A_R	A_J
1	x
2	a

S	
A_S	A_J
3	a

T	
A_T	A_J
4	x
5	a

results in:

$(R \bowtie S) \bowtie T$			
A_R	A_J	A_S	A_T
1	x		4
2	a	3	5

$R \bowtie (S \bowtie T)$			
A_R	A_J	A_S	A_T
1	x		
2	a	3	5

Exercise 2

Exercise 3