

# Homework #13

Name \_\_\_\_\_

Sec \_\_\_\_\_

Questions:	Answers:																																											
<p>1. Use the relations given below to evaluate the relational expressions or explain why the expression is invalid.</p> <p>a) <math>\sigma_{A&lt;4}Q \cdot U</math> b) <math>\pi_A\sigma_{B&lt;A}Q</math> c) <math>\pi_{BE}(R \cdot \pi_{CE}S)</math> d) <math>Q \cup \pi_BR</math> e) <math>\pi_{CDE}(\sigma_{B&lt;2}R \cdot \rho_{C \leftarrow E}U) - S</math></p> <p><b>Q:</b></p> <table><tr><th>A</th><th>B</th></tr><tr><td>5</td><td>1</td></tr><tr><td>6</td><td>1</td></tr><tr><td>4</td><td>2</td></tr><tr><td>3</td><td>4</td></tr></table> <p><b>R:</b></p> <table><tr><th>B</th><th>C</th></tr><tr><td>1</td><td>4</td></tr><tr><td>2</td><td>4</td></tr><tr><td>2</td><td>5</td></tr><tr><td>3</td><td>6</td></tr><tr><td>3</td><td>9</td></tr></table> <p><b>S:</b></p> <table><tr><th>C</th><th>D</th><th>E</th></tr><tr><td>4</td><td>1</td><td>1</td></tr><tr><td>4</td><td>2</td><td>1</td></tr><tr><td>3</td><td>3</td><td>2</td></tr><tr><td>2</td><td>4</td><td>2</td></tr></table> <p><b>U:</b></p> <table><tr><th>C</th><th>D</th></tr><tr><td>1</td><td>2</td></tr><tr><td>2</td><td>4</td></tr></table>	A	B	5	1	6	1	4	2	3	4	B	C	1	4	2	4	2	5	3	6	3	9	C	D	E	4	1	1	4	2	1	3	3	2	2	4	2	C	D	1	2	2	4	<p>a) A   B   C   D      b) A 3   4   1   2      5 3   4   2   4      6                     4</p> <p>c) B   E 1   1 2   1 2   1 3   1 3   1 1   1 2   1 2   1 3   1 3   1 1   2 2   2 2   2 2   2 3   2 3   2 3   2 1   2 2   2 2   2 3   2 3   2</p> <p>d) R 1 2 2 3 3</p>
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<p>2. Use the relations given above in problem 1 to evaluate the relational expressions or explain why the expression is invalid.</p> <p>a) <math>\pi_ES \mid \cdot \mid U</math> b) <math>Q \mid \cdot \mid R</math> c) <math>\sigma_{B&lt;2}Q \mid \cdot \mid R \mid \cdot \mid \rho_{C \leftarrow B}U</math></p>																																												