Written Homework #3

CS127

October 5, 2009

Problem #1

Give the SQL query for the following relational algebra operators.

1. $A \cup B$
2. $A - B$
3. $A \cap B$
4. $A \times B$
5. $A \bowtie B$ $f_1 ... f_n$ are common attributes of A and B
6. $A \div B$ $A(id, f_1 ... f_n)$ and $B(f_1 .. f_n)$

Problem #2

Translate the relational algebra queries you did for Problem 1.1-1.4 in HW1 into SQL queries.

Problem #3

Suppose you are given a table of vertices that define a rectangle:

rectangle(id, X, Y)

Give a SQL query that given another set of points on the same coordinate system, *vertices(id, X, Y)*, returns the subset of points in *vertices* that are contained within the rectangle (including points lying on the boundaries).

EXAMPLE:

	rectangle	
id	X	Y
1	-4	6
2	2	10
3	-4	10
4	2	6

	vertices	
id	X	Y
55	-4	-6
104	1	10
67	-5	7
42	-1	8

→

	mysql :)	
id	X	Y
104	1	10
42	-1	8