Name: _____ USC ID: _____

Quiz 5: SQL & Constraints (10 points), 10 minutes (Afternoon section)

Consider two tables R(A, B) and S(A,C). Suppose R contains {(1,5), (3,6)} and S contains {(1,2), (1,3), (2,4)} .

1. [5 points] Write an SQL query to compute **natural** full outer join of R and S (R is the left relation), using only left outer, right outer, and inner join (as supported in MySQL).

   Select */S.A, S.C, R.B from R right outer join S
   union
   Select */S.A, S.C, R.B from R left outer join S

   Union all is also correct, but be aware that it may produce duplicates.

2. [2 points] What is the output of the above query on the sample data shown above?

   A B C
   1 5 2
   1 5 3
   3 6 null
   2 null 4

   Need to be consistent with above query.

3. [3 points] Suppose now A in table S is a foreign key referring to A of table R. State the three possible actions for enforcing foreign key constraint, when a tuple (1,2) is deleted from R. For each action, state its effect on the content of tables.

   1. Default: reject command.
   2. Set null: set corresponding tuples values into null.
   3. Cascade: delete corresponding tuples.