Name: _____   USC ID: _____

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

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

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 *
    From R natural left outer join S where C is Null
    Union all
    Select *
    From R natural right outer join S;

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

    {(1,2,5), (2,4,NULL),(3,NULL,6)}

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 the deletion): R{(1,2), (2,4)}   S{(1,5), (3,6)}

2. Cascade (make the same change in the S): R{(2,4)} S {(3,6)}

3. Set NULL: R{(2,4)}   S{{null,5}(3,6)}

INF 551 – Fall 2018