T1-tsa-ra.docx

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Applied Class No: A03

Comments for your marker:

Write the **relational algebra operations** for each of Task 1 queries below (your answer must show an *understanding of query efficiency*).

List of symbols for copying/pasting as you enter your answers below:
project: π, select: σ, join: ⋈, intersect: ∩, union: ∪, minus: -

1(a)

$R1 = \pi_{town\_id, town\_name, town\_state}$ TOWN

$R2 = \pi_{town\_id, town\_name, town\_state}$ (TOWN ⋈ POINT_OF_INTEREST)

R = R1- R2

1(b)

$R1 = \sigma_{poi\_type\_descr = \text{“Nature and Wildlife”}}$ POI_TYPE

$R = \pi_{poi\_id, poi\_name, poi\_street\_address, poi\_description}$ ($\sigma_{poi\_review\_rating > 3}$ (R1 ⋈ POINT_OF_INTEREST))

1(c)

$R1 = \sigma_{town\_lat = -17.9644,\ town\_long = 122.2304}$ TOWN

$R2 = \pi_{poi\_id, poi\_name}$ (R1 ⋈ POINT_OF_INTEREST)

$R3 = \pi_{poi\_id, poi\_name, review\_date\_time, review\_comment, review\_rating, member\_id}$ (R2 ⋈ REVIEW)

$R = \pi_{member\_id, member\_gname, poi\_id, poi\_name, review\_date\_time, review\_rating, review\_comment}$ (R3 ⋈ MEMBER