T1-tsa-ra.docx

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Unit Code: FIT3171
Applied Class No: Tutorial 1, Friday 12pm

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)

$R1 = (\pi_{town\_id}\ TOWN) - (\pi_{town\_id}\ POINT\_OF\_INTEREST)$

$R2 = \pi_{town\_id,\ town\_name,\ town\_state}\ TOWN$

$R2 = (R1) \bowtie (\pi_{town\_id,\ town\_name,\ town\_state}\ TOWN)$

1(b)

$R1 = \sigma_{poi\_type\_descr = \text{'Nature and Wildlife'}}\ POI\_TYPE$

$R2 = \sigma_{poi\_review\_rating>3}\ POINT\_OF\_INTEREST$

$R = \pi_{poi\_id,\ poi\_name,\ poi\_street\_address,\ poi\_description}\ (R1 \bowtie R2)$

1(c)

$R1 = \pi_{town\_id}\ (\sigma_{town\_lat = -17.9644 \text{ and } town\_long = 122.2304}\ TOWN)$

$R2 = (\pi_{poi\_id,\ town\_id,\ poi\_name}\ POINT\_OF\_INTEREST) \bowtie (R1)$

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

$R = (\pi_{member\_id,\ member\_gname}\ MEMBER) \bowtie (R3)$