T1-tsa-ra.docx

Student ID: 32023952
Student Name: Lim Zheng Haur
Unit Code: FIT3171
Applied Class No: A01

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)
$R1 = \pi_{town\_id, town\_name, town\_state}((\pi_{town\_id, town\_name, town\_state} TOWN) \bowtie (\pi_{poi\_id, town\_id} POINT\_OF\_INTEREST))$
$R = \pi_{town\_id, town\_name, town\_state} (TOWN - R1)$

1(b)
$R1 = \pi_{poi\_type\_id} (\sigma_{poi\_type\_descr = \text{'Nature and Wildfire'}} POI\_TYPE)$
$R2 = \pi_{poi\_id, poi\_name, poi\_street\_address, poi\_description} (\sigma_{poi\_review\_rating > 3} POINT\_OF\_INTEREST)$
$R = \pi_{poi\_id, poi\_name, poi\_street\_address, poi\_description} (R2 \bowtie R1)$

1(c)
$R1 = \pi_{town\_id} (\sigma_{town\_name = \text{'Broome'} \text{ and } town\_lat = -17.9644 \text{ and } town\_long = 122.2304} TOWN)$
$R2 = \pi_{poi\_id, poi\_name} (R1 \bowtie (\pi_{poi\_id, poi\_name, town\_id} POINT\_OF\_INTEREST))$
$R3 = \pi_{poi\_id, poi\_name, review\_date\_time, review\_rating, review\_comment, member\_id} ((\pi_{poi\_id, review\_date\_time, review\_rating, review\_comment, member\_id} REVIEW) \bowtie R2)$
$R = \pi_{member\_id, member\_gname, poi\_id, poi\_name, review\_date\_time, review\_rating, review\_comment} (R3 \bowtie (\pi_{member\_id, member\_gname} MEMBER))$