T1-tsa-ra.docx

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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 = π town\_id, town\_name, town\_state ((π town\_id, town\_name, town\_state TOWN) ⨝ (π poi\_id, town\_id POINT\_OF\_INTEREST))

R = π town\_id, town\_name, town\_state (TOWN – R1)

1(b)

R1 = π poi\_type\_id (σ poi\_type\_descr = ‘Nature and Wildfire’ POI\_TYPE)

R2 = π poi\_id, poi\_name, poi\_street\_address, poi\_description (σ poi\_review\_rating > 3 POINT\_OF\_INTEREST)

R = π poi\_id, poi\_name, poi\_street\_address, poi\_description (R2 ⨝ R1)

1(c)   
R1 = π town\_id (σ town\_name = ‘Broome’ and town\_lat = -17.9644 and town\_long = 122.2304 TOWN)

R2 = π poi\_id, poi\_name (R1 ⨝ (π poi\_id, poi\_name, town\_id POINT\_OF\_INTEREST))

R3 = π poi\_id, poi\_name, review\_date\_time, review\_rating, review\_comment, member\_id ((π poi\_id, review\_date\_time, review\_rating, review\_comment, member\_id REVIEW) ⨝ R2)

R = π member\_id, member\_gname, poi\_id, poi\_name, review\_date\_time, review\_rating, review\_comment (R3 ⨝ (π member\_id, member\_gname MEMBER))