T1-tsa-ra.docx

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Unit Code: FIT2094

Applied Class No: Applied 01, Melbourne Wed 18:00

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)

List the id, name and state of all towns which do not have any point of interest.

R1 = π town\_id POINT\_OF\_INTEREST

R2 = π town\_id, town\_name, town\_state TOWN

R = R1 - R2

1(b)

List the id, name, street address and description of all points of interests which fall under ‘Nature and Wildlife’ type and have a review rating above 3.

R1 = POI\_TYPE ⨝ POINT\_OF\_INTEREST

R2 = σ poi\_type\_descr = 'Nature and Wildlife' R1

R3 = σ poi\_review\_rating > 3 R2

R = π poi\_id, poi\_name, poi\_street\_address, poi\_description R3

1(c)

List member id, member given name, poi id, poi name, review date time, review rating and review comment of all reviews written for POIs which are located in a town named Broome (latitude:-17.9644, longitude:122.2304)

R1 = σ town\_name='Broome' and town\_lat=-17.9644 and town\_long=122.2304 TOWN

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

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

R4 = (π member\_id, poi\_id, poi\_name, review\_date\_time, review\_rating, review\_comment R3) ⨝ (π member\_id, member\_gname MEMBER)

R5 = π member\_id, member\_gname, poi\_id, poi\_name, review\_date\_time, review\_rating, review\_comment R4