T1-tsa-ra.docx

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Applied Class No: 4

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)

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

1(b)

$TYPE = \pi_{poi\_type\_id} (\sigma_{poi\_type\_descr = 'Nature and Wildlife'} POI\_TYPE)$

$R = \pi_{poi\_id, poi\_name, poi\_street\_address, poi\_description} (\sigma_{poi\_review\_rating > 3 \cap poi\_type\_id = TYPE} POINT\_OF\_INTEREST)$

1(c)

$R = \pi_{member\_id, member\_gname, poi\_id, poi\_name, review\_date\_time, review\_rating, review\_comment} (\sigma_{town\_lat = -17.9644 \cap town\_long = 122.2304} (TOWN \bowtie POINT\_OF\_INTEREST \bowtie REVIEW \bowtie MEMBER))$