

CSE 4/562 — Spring 2018 — Homework 1

Due: Tuesday Feb 20, 11:59 PM

1 Relational Algebra

Implement full-outer join using only the basic relational algebra operations (σ , π , \times , $-$, \cup)

2 Equivalence Rules

Using the relational equivalencies for Selection, Projection, and *Cartesian Products* discussed in class, prove that

$$\pi_{A \cup B}(R \bowtie_C S) \equiv (\pi_A(R)) \bowtie_C (\pi_B(S))$$

A and B are sets of attributes, and C is a boolean condition. Be sure to state any assumptions or conditions under which your proof and/or the equivalence holds.