

# CSC343 Worksheet 4 Solution

June 17, 2020

1. **Exercise 5.2.1:** Here are two relations

$$R(A, B): [(0,1), (2,3), (0,1), (2,4), (3,4)]$$

$$S(A, B): [(0,1), (2,4), (2,5), (3,4), (0,2), (3,4)]$$

Compute the following

a)  $\pi_{A+B, A^2, B^2}$

b)  $\pi_{B+1, C-1}(S)$

c)  $\tau_{B,A}(R)$

d)  $\tau_{B,C}(S)$

e)  $\delta(S)$

f)  $\gamma_{A, SUM(B)}(R)$

g)  $\gamma_{B, AVG(C)}(S)$

h)  $\gamma_A(R)$

i)  $\gamma_{A, MAX(C)}(R \bowtie S)$

j)  $R \ltimes$