COURSE: CS/DSA- 4513 – DATABASE MANAGEMENT

SECTION: 001

SEMESTER: FALL 2019

INSTRUCTOR: DR. LE GRUENWALD

GROUP NUMBER: 43

LINCE RUMAINUM

SCORE:

Problem 2-d

Explain in detail why your decomposition obtained in part (c) is/is not loss-less join from

Problem 2 (d) in Graded Homework 4:

It is a loss-less join for both cases because:

EMPLOYEE1(id, classid, gender, manager, salary)

EMPLOYEE1 Functional Dependencies =
{(classid, id, gender) → (salary, manager),
manager → (classid, id, gender)}

R1 = (classid, id, gender) → (salary, manager)

R2 = manager → (classid, id, gender)

Since

R1 ∩ R2 → (classid, id, gender)

R1 ∩ R2 → manager

it is loss-less join

EMPLOYEE2(id, name, age)
EMPLOYEE2 Functional Dependencies =
{(name → (age, id),
id → name}

R1 = name → (age, id)

R2 = id → name

Since

R1 ∩ R2 → name

R1 ∩ R2 → id

it is loss-less join