Task1: Consider the following set of requirements for a university database that is used to keep track of students’ transcripts.

The university keeps track of each student’s name, student number, address and phone, birth date, class (First Year, Second Year, . . ., Fourth Year) and department. Student number has unique values for each student. Each department is described by a name, department code, office number, office phone, and college. Both name and code have unique values for each department. Each course has a course name, description, course number, number of lecture hours, and offering department. The value of course number is unique for each course. An exam report has a student, course, and result will be needed.

Using ERWin design and draw a crows feet ER diagram. Specify key attributes of each entity type and structural constraints on each relationship type. Note any unspecified requirements, and make appropriate assumptions to make the specification complete.

Entity Analysis from me:

STUDENTS

student’s name, student number(PK), address and phone, birth date, class (First Year, Second Year, . . ., Fourth Year) and department

DEPARTMENT

Name(PK), department code(PK), office number, office phone, and college

COURSE

course name, description, course number(PK), number of lecture hours, and offering department

EXAM REPORT

a student, course, and result will be needed.

Tasl 2: ER diagram for a HR system

In the Human Resource (HR) records, each employee has an identification number, e-mail address, job identification code, salary, and manager. Some employees earn commissions in addition to their salary.

The company also tracks information about jobs within the organization. Each job has an identification code, job title, and a minimum and maximum salary range for the job. Some employees have been with the company for a long time and have held different positions within the company. When an employee resigns, the duration the employee was working, the job identification number, and the department are recorded.

The sample company is regionally diverse, so it tracks the locations of its warehouses and departments. Each employee is assigned to a department, and each department is identified either by a unique department number or a short name. Each department is associated with one location, and each location has a full address that includes the street name, postal code, city, state or province, and the country code.

In places where the departments and warehouses are located, the company records details such as, the country name, currency symbol, currency name, and the region where the country resides geographically.

Each department is managed by one employee. Each employee is managed by one manager. Each department can have many employees. Managers are employees, their role as manager is identified through the job\_id attribute on the employee record.

Entity Analysis from me:

EMPLOYEE

identification number(PK), e-mail address, job identification code, salary, and manager. Some employees earn commissions

JOB

identification code, job title, and a minimum and maximum salary range for the job

WORKING

duration the employee was working, the job identification number, and the department are recorded

(MAY have held different positions within the company)

DEPARTMENT

d\_number or short name

location

LOCATION

full address that includes the street name, postal code, city, state or province, and the country code.

MANAGE

DEPT EMPLOYEE

EMPLOYEE MANAGER(EMPLOYEE)