

**ISYS 464, Fall 2023, ASSIGNMENT 2, DUE DATE: Wednesday, 9/27/2023**

**Part 1: Draw an ERD for the following situation: Projects, Inc. is an engineering firm with approximately 500 employees. A data is required to keep track of all employees, their skills, projects assigned, and departments worked in. Every employee has a unique number assigned by the firm, required to store his or her name, job title and date of birth. If an employee is currently married to another employee of Projects, Inc., the date of marriage and who is married to whom must be stored; however, no record of marriage is required if an employee's spouse is not also an employee. There are seven different departments, each with a unique name. An employee can report to only one department. Each department has a phone number.**

**To procure various kinds of equipment, each department deals with many vendors. A vendor typically supplies equipment to many departments. We are required to store the name and address of each vendor and the date of the last meeting between a department and a vendor. Many employees can work on a project. An employee can work on many projects. An employee can have many skills. Each skill is assigned a number and a short description of each skill. Projects are distinguished by project numbers, and we must store the estimated cost of each project.**

**Part 2: Enhanced ERD**

- 1) Sooner Solutions is a retail store specializing in computer software products. The manager of the store is interested in tracking customer and order information. There are three types of customers who purchase products from Sooner Solutions. These customers are companies, universities, and government agencies. Customer number, address, and credit rating is maintained for all customers. Further, government agencies have exemption codes. Sooner solutions negotiates with each University to create a contract that results in a discount percent that is determined based on a variety of factors (none of which you need to track, however you did need to know the discount percent associated with each university). Order information includes order number, date, and required delivery date. Draw the ERD for the Sooner Solutions based on the data requirements.**
- 2) (This part is for practice only, not required to submit) The corporate owner (franchisor) of a national chain of the Assignment 1, part 1, want to expand its database to include company owned restaurants in the database in addition to the franchised restaurants. It has about 100 company owned restaurants. The database should store information about restaurant's location (including street address, city, state and zip code). And for franchised restaurants, the database must store restaurant's contract starting date, and for the company owned restaurants the database must store restaurant manager's employee ID and full name, cell phone and salary. The requirements for storing franchised restaurants' owners and contract type are the same as assignment 1, part 1. Draw the revised ERD based on the new requirements.**

**Note 1: You must show if a relationship is mandatory or optional for this part.**

**Note 2: You must submit your initial analysis to ChatGPT to get its comments as assignment 1.**

**Note 3: For Part 2.1, you must indicate the completeness constraint and the disjointness constraint between the supertype and the subtype.**

**Submit ERD screenshots and ChatGPT dialogue of part 1 and part 2.1 to my email.**