Project Description

The project is designing a complete database management system to address a practical database need and implement a relational database based on that design. Your database system should be designed to perform general information management tasks such as systematic collection, update, and retrieval of information for a small organization.

The objective of Project #1 is to develop a normalized relational data model describing the primary business processes of **Quantum Company**. company has several departments. Each department has a supervisor and at least one employee. Employees must be assigned to at least one project, but possibly more departments. At least one employee is assigned to a project, but an employee may be on vacation and not assigned to any projects. The important data fields are the names of the departments, projects, supervisors, and employees, as well as the supervisor and employee number and a unique project number. The **initial** entities for your model are **Department**, **Employee**, **Supervisor** and **Project**. In addition to these initial entities, you are provided with se**ve**ral business rules.

You should treat this project like a business assignment in which your instructor is your customer. You are asked to deliver the results of this project in a very professional and accurate format. The quality of your project submission is a reflection of your attention to detail, and it is an important factor that influences how your customers will think of you and how quickly they will pay you. Your **instructor** (**customer**) will deduct points for incorrect formatting, as well as inaccurate or incomplete work. Your grade represents your pay.

Business Rules: In addition to the following business rules, make sure to add any other business rules based on your assumptions:

1. *Each DEPARTMRNT has exactly one SUPERVISOR.*
2. *A SUPERVISOR is in charge for one and only one DEPARTMENT.*
3. *Each DEPARTMENT is assigned at least one EMPLOYEE.*
4. *Each EMPLOYEE works for at least one DEPARTMENT.*
5. *Each PROJECT has at least one EMPLOYEE working on it.*
6. *An EMPLOYEE is assigned to 0 or more Project.*
7. Add any additional business rules.

Deliverable: Create a table that shows all attributes, keys, Null/Not Null, data types, then create Conceptual, Logical, and physical Entities relationship diagrams (ERDs) that you develop in ***ERwin***. All the functionality indicated in the business rules must be present. Also, this exercise is an excellent opportunity to show your understanding of Enhanced Entity Relationship Diagrams ***(EERD*)**, as you will have the opportunity to demonstrate Supertype/Subtypes. A helpful hint here is to take a screenshot of your ***ERwin*** ERD instead of printing it. **ERwin** places a big watermark description across the page when you print using the free Community Edition of the software; however, if you simply take a screenshot, then the watermark does not appear. All entities, attributes, and relationships must be properly labeled. Although they are presented in different visual formats, the information contained on this Deliverable 3 ***ERwin*** logical data model (**ERD)** must exactly correspond to the information contained on Logical Schema of deliverable.