HW- 2 Data Modelling Design

Overview

- This homework is worth 10 points (10%) toward your final grade.
- It is due on 2/20/2020, 11:59 pm.
- Late policy applies (grace period of 2 days with 20% late penalty). After that time, no late work will be accepted.
- Save your results in a document using tools such as word, excel, text or similar format and convert into pdf.
- Submit your assignment in **PDF format on Canvas**.

For this assignment you will need to download and install MySQL workbench on your computer. Downloads are available at: https://dev.mysql.com/downloads/workbench/

Choose the download file that matches your computer's OS and version. We will be installing MySQL workbench during class also. Windows based installation files are also available in Canvas.

This project will give you hands-on practice in working with **MySQL Workbench** to create a key-based, fully attributed data model. In this project you will design a database, draw a data model to represent the design, then create a "physical model" of your design in the format of DDL (table create statements).

Objectives

1. Become familiar with a data modeling tool and to create a complete data model.
2. Use the data modeling software to generate the DDL to create the database you have designed.

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Deliverables

1. A key-based, fully-attributed **Data Model / ERD** depicting your database design with inputs given below. Your model should include:
   - All tables with proper entity name, primary key and foreign key attributes defined.
   - All attributes with data type, length, and constraints defined.
   - All relationships showing captions and proper optionality/cardinality relationship.

2. The **DDL** generated by your data modeling software tool necessary to create the database you have designed.

INPUT

Please use below input (entities and attributes) for this assignment:

Department (dept_no, dept_name)

Employee (employee_no, employee_name)

Project (project_code, project_title, project_manager, project_budget)

Skill (skill_code, skill_type)

Additionally, there are 2 attributes:

Hourly_rate (amount) is functionally dependent on project and employee.

Skill_level (number) is functionally dependent on skill and employee.

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Here are assumptions on relationships among tables:

- Department has zero, one or more employees, i.e. Department may exists without any employees.
- Each employee must belong to only one department.
- Each project must include one or many employees.
- Each employee must work on one or many projects.
- Each employee may have zero, one or more skills.
- Each skill may belongs to zero, one or more employee.

  Make sure to resolve many-to-many relationship, if any.