Kettering
UNIVERSITY

College of Sciences & Liberal Arts
Department of Computer Science
CS 461/661 Database Systems
Spring 2023

In-class Activity 3
ER-Diagram

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Recommended steps to create a database:
1. Build all your database structure using (Model):
   Check the link: https://dev.mysql.com/doc/workbench/en/wb-tutorials.html
2. Perform Reverse Engineering to convert your physical database to ER diagram. (Check Forward Engineering vs. Reverse Engineering)
3. Fill the data in the tables (**at least eight records in each table**).

Tasks:
Create a new Database named: **Company**
1. Create *EMPLOYEE* Table:
   - ❑ **FNAME:** First Name
   - ❑ **LNAME:** Last Name
   - ❑ **SSN:** Social Security Number *(Primary Key)*
   - ❑ **BDATE:** Birth Date
   - ❑ **ADDRESS:** Employee's Address
   - ❑ **GENDER:** F (Female), M (Male), or O (Other)
   - ❑ **SALARY**
   - ❑ **SUPERSSN:** Employee's Supervisor SSN
   - ❑ **DNO:** No. of the Department the Emp. Works in *(Foreign Key)*

2. Create *DEPARTMENT* Table:
   - ❑ **DNAME**: Department Name
   - ❑ **DNUMBER:** Department Number (Primary Key)
   - ❑ **MGRSSN:** Manager Social Security Number (Foreign Key)
   - ❑ **MGRSTARTDATE:** Manager Work Start Date

3. Create *DEPT_LOCATIONS* Table:
   - ❑ **DNUMBER:** Department Number (Primary Key) + (Foreign Key)
   - ❑ **DLOCATION:** Department Location (Primary Key)

4. Create *PROJECT* Table:
   - ❑ **PNAME:** Project Name
   - ❑ **PNUMBER:** Project Number *(Primary Key)*
   - ❑ **PLOCATION:** Project Location
   - ❑ **DNUM:** Department Number which Project belongs to *(Foreign Key)*
5. Create *WORKS_ON* Table**:**
   - ❑ **ESSN:** Employee Social Security Number (Primary Key) + (Foreign Key)

- ❑ **PNO:** Project Number (Primary Key) + (Foreign Key)
- ❑ **HOURS:** Project Working Hours

6. Create ***DEPENDENT*** Table**:**
   - ❑ **ESSN:** Employee Social Security Number (Primary Key) + (Foreign Key)
   - ❑ **DEPENDENT_NAME:** Dependent name **(**Primary Key)
   - ❑ **SEX:** F (Female), M (Male), or O (Other)
   - ❑ **BDATE:** Birth date of dependent
   - ❑ **RELATIONSHIP:** Dependent relationship to the employee

Deliverables:

Submit the following files in one WinZip or WinRAR file. It should be named
CS461-661-Activity3-LastName.winrar or .winzip:

1. Submit the model file (.mwb)
2. Export the tables as Excel spreadsheets and submit them.
3. Take a screenshot of your ER diagram and add it at the end of this file. Rename this file by adding your last name to the current file name. CS461-661-Activity3-LastName.docx or .pdf
4. Put all files in one folder and create a WinZip or WinRAR file and just submit this compressed file. Name of file CS461-661-Activity3-LastName.winzip or winrar.

ER Diagram: