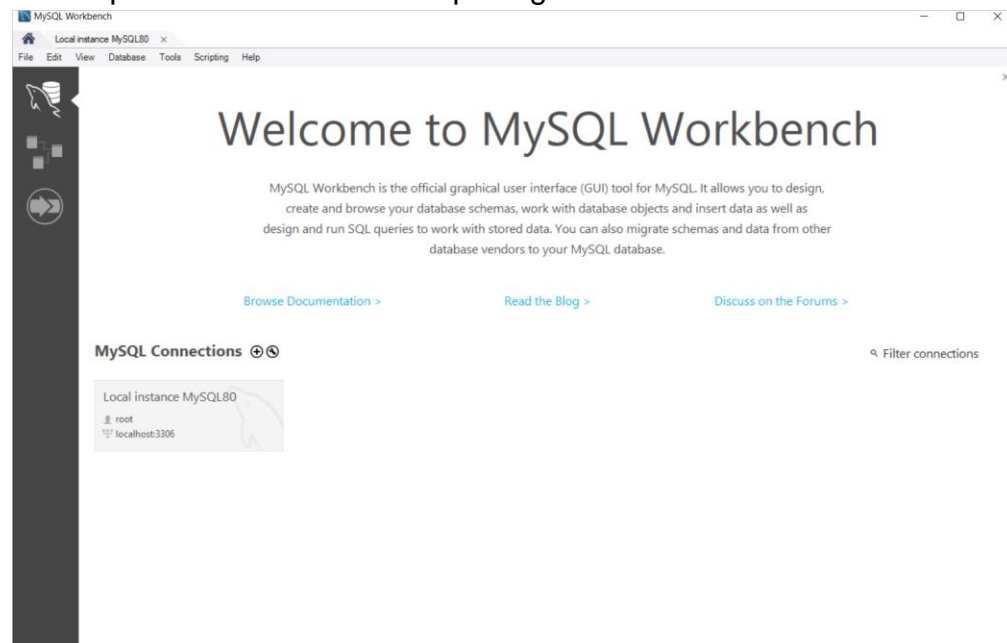**Student Name:** _____ **Student ID:** _____

## Assignment: SQL Part I

There are two parts of the assignment. You must complete two parts before submitting the SQL script via MyCourses

# Part I: Install MySQL Workbench + Prep File

1. Please complete the MySQL Workbench and MySQL Server installation before proceeding to the next step.

   The expected screen after completing installation is as follows:

   

2. Open MySQL Workbench and connect to your "Local instance"
3. **Download** the initial SQL script from MyCourses and rename the file as "`sql1_sY_xx88xxx`" where **Y** is your section and **xx88xxx** is your MU student ID'
4. **Open the SQL script from Step 3 in the MySQL Workbench by clicking** 🗎 **or go to File > Open SQL Script**

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<mark>You must complete Part I before proceeding Part II. You must write and save the DDL commands in the SQL script, which will be submitted by the given deadline</mark>
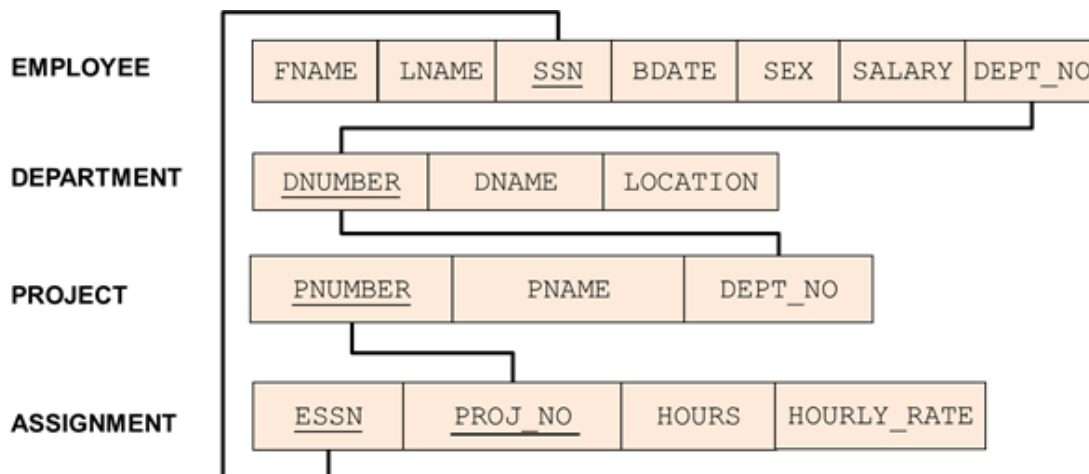
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Student Name:_____Student ID:_____

# Part II: Data Definition Language

Given the **relational schema**, the **data dictionary (Table 1)** for "`tinycompany`" and
the initial <mark>`sql1_sY_xx88xxx.sql`</mark> DDL as follow.

**Fill in the given DDL commands** to create a complete "`tinycompany`" database
using the script provided. By executing the given DDL, you will have a "`tinycompany`"
database with `department` table. Your tasks are to create the remaining three tables:
`employee`, `project` and `assignment`.

**Note**:

- All `CREATE` commands must be executed in the proper sequences
- The attribute in each table should have the proper data type defined in Table 1
- The `CREATE` commands should include the required constraints i.e. `PRIMARY KEY, FOREIGN KEY, NOT NULL, CHECK` etc.
- You are also allowed to use `ALTER` and `DROP` to modify the existing tables

Student Name:_____Student ID:_____

## Table 1: Data Dictionary for "`tinycompany`"

| Table Name | Attribute Name | Contents | Type | Format | Nullable | Range | Key | FK Referenced Table |
|---|---|---|---|---|---|---|---|---|
| Department | dnumber | Department's number | int | x | | 1 to 20 | PK | |
| | dname | Department's name | varchar(20) | Xxxxxx | | | | |
| | location | Department's main location | varchar(100) | Xxxxxx | Y | | | |
| Employee | fname | Employee's first name | varchar(20) | Xxxxxx | | | | |
| | lname | Employee's last name | varchar(20) | Xxxxxx | | | | |
| | ssn | Social security number | char(9) | xxxxxxxxx | | | PK | |
| | bdate | Employee's birthday | date | yyyy-mm-dd | | | | |
| | sex | Employee's gender | char(1) | X | | M,F | | |
| | salary | Salary | decimal(12,2) | 1234567890.00 | Y | | | |
| | dept_no | Department's number | int | x | Y | | FK | dnumber [Department] |
| Project | pnumber | Project's number | int | x | | | PK | |
| | pname | Project's name | varchar(50) | Xxxxxx | | | | |
| | dept_no | Department's number | int | x | | | FK | dnumber [Department] |
| Assignment | essn | Empolyee's SSN | char(9) | xxxxxxxxx | | | PK, FK | ssn [Employee] |
| | proj_no | Project's number | int | x | | | PK, FK | pnumber [Project] |
| | hours | Number of hours spent | decimal(9,2) | 1234567.89 | Y | | | |
| | hourly_rate | Hourly rate | decimal(9,2) | 1234567.89 | Y | | | |

**`sql1_sY_xx88xxx.sql`**

```
/* -----------------------------------------------------------
--   Please fill in your information in this comment block --
--   Student ID:
--   Fullname:
--   Section:
---------------------------------------------------------- */
DROP DATABASE IF EXISTS tinycompany;
CREATE DATABASE IF NOT EXISTS tinycompany;
USE tinycompany;

-- Department Table
CREATE TABLE department(
       dnumber     INT   PRIMARY KEY,  -- dnumber is a primary key
       dname VARCHAR(20)  NOT NULL,
       location     VARCHAR(100), -- location is nullable
       CONSTRAINT chk_dnumber CHECK (dnumber >= 1 AND dnumber <=20 )
                 -- dnumber range from 1 to 20
);

-- Write your DDL for employee and assignment here
-- Hint: Review the CREATE sequence, i.e., which tables should
-- be created first
```
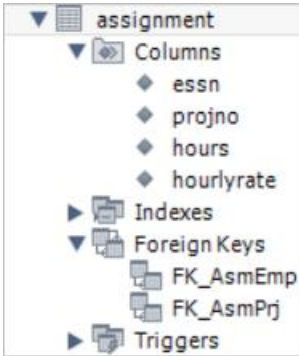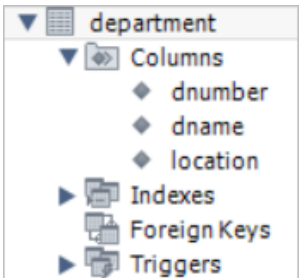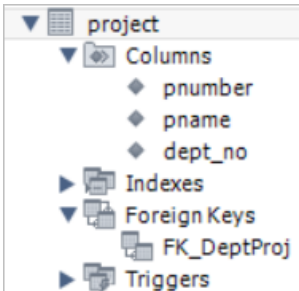
Submit your DDL script via MyCourses (make sure your file names
"`sql1_sY_xx88xxx.sql`" by the given deadline

**Student Name:**_____**Student ID:**_____

The expected schemas for "`tinycompany`" database should be as follows

| Table | Schema View | Information |
|---|---|---|
| assignment | ▼ 田 assignment<br>　▼ Columns<br>　　◆ essn<br>　　◆ projno<br>　　◆ hours<br>　　◆ hourlyrate<br>　▶ Indexes<br>　▼ Foreign Keys<br>　　FK_AsmEmp<br>　　FK_AsmPrj<br>　▶ Triggers | Table: assignment<br><br>Columns:<br>**essn**　　char(9) PK<br>**projno**　int PK<br>hours　　decimal(9,2)<br>hourlyrate　decimal(12,2) |
| department | ▼ 田 department<br>　▼ Columns<br>　　◆ dnumber<br>　　◆ dname<br>　　◆ location<br>　▶ Indexes<br>　　Foreign Keys<br>　▶ Triggers | Table: department<br><br>Columns:<br>**dnumber**　int PK<br>dname　　varchar(20)<br>location　varchar(100) |
| employee | ▼ 田 employee<br>　▼ Columns<br>　　◆ fname<br>　　◆ lname<br>　　◆ ssn<br>　　◆ bdate<br>　　◆ sex<br>　　◆ salary<br>　　◆ dept_no<br>　▶ Indexes<br>　▼ Foreign Keys<br>　　FK_EmpDept<br>　▶ Triggers | Table: employee<br><br>Columns:<br>fname　　varchar(20)<br>lname　　varchar(20)<br>**ssn**　　char(9) PK<br>bdate　　date<br>sex　　char(1)<br>salary　　decimal(12,2)<br>**dept_no**　int |
| project | ▼ 田 project<br>　▼ Columns<br>　　◆ pnumber<br>　　◆ pname<br>　　◆ dept_no<br>　▶ Indexes<br>　▼ Foreign Keys<br>　　FK_DeptProj<br>　▶ Triggers | Table: project<br><br>Columns:<br>**pnumber**　int PK<br>pname　　varchar(50)<br>**dept_no**　int |