THU 29 Oct 2020

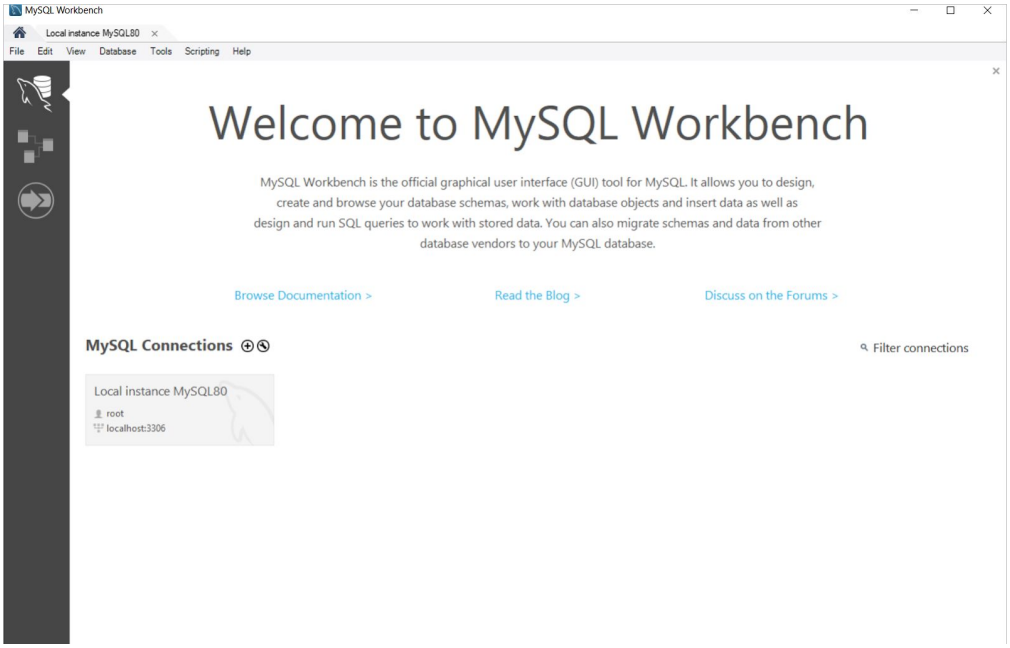
6288034

ITCS 241 Database Management Systems
SQL Class Assignment 1

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

Part I: Install MySQL Workbench + Prep File

1. If you already completed MySQL Workbench installation, go to Step 5
2. Download MySQL Workbench 8.0.21 [Link]
3. Follow the installation instructions in MySQLWorkbench Slide in MyCourse
4. The expected screen after completing installation is as follows:



5. Open MySQL Workbench and connect to your “Local instance”
6. **Download** the initial DDL script from MyCourse and rename the file as "**`sql1_sY_xx88xxx`**" where **`Y`** is your section and **`xx88xxx`** is your MU student ID’

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 at the end of the class :)

Part II: Data Definition Language

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

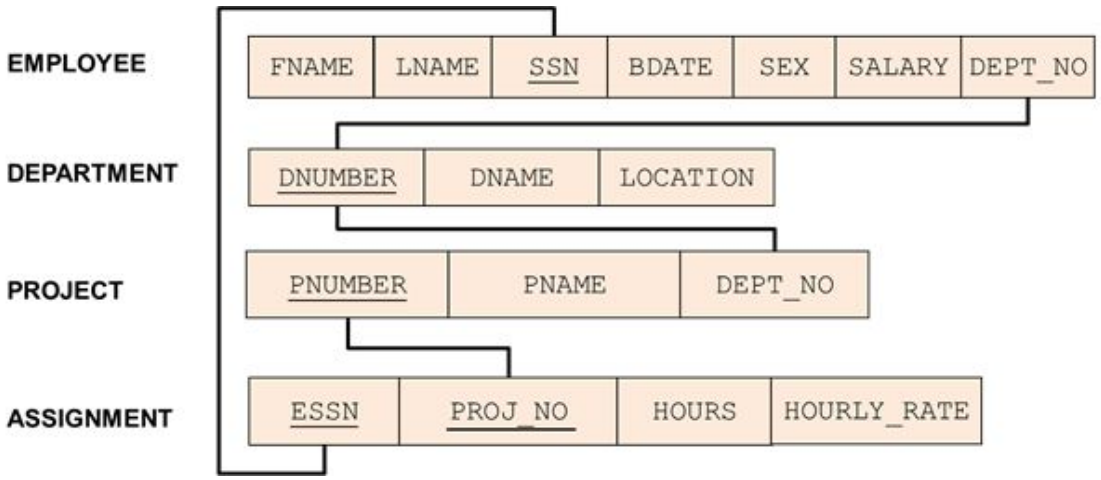


Table 1: Data Dictionary for "`tinycompany`"

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
);

-- Project Table
CREATE TABLE project(
     pnumber   INT  PRIMARY KEY,  -- dnumber is a primary key
     pname     VARCHAR(50)  NOT NULL,
     dept_no   INT  NOT NULL,
     CONSTRAINT FK_DeptProj FOREIGN KEY (dept_no)
     REFERENCES department(dnumber)
);

-- Write your DDL for employee and assignment here
-- Hint: Review the CREATE sequence, i.e., which tables should
-- be created first
```

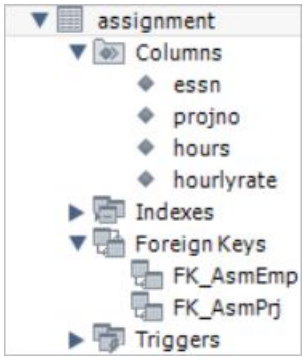
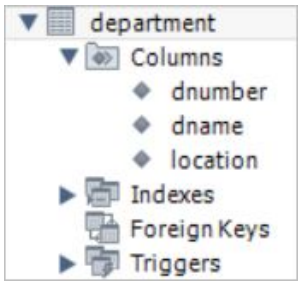
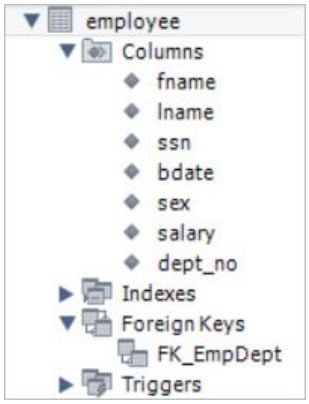
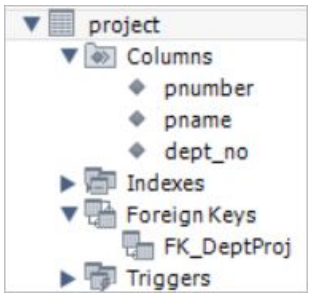
Fill in the given DDL commands to create a complete "`tinycompany`" database using the script provided. By executing the given DDL, your tasks are to create the remaining two tables: `employee` and `assignment`.

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

Submit your DDL script via MyCourse (make sure your file names "`sql1_sY_xx88xxx.sql`"

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

Table	Schema View	Information
assignment		**Table: assignment** **Columns:** **essn** varchar(9) PK **projno** int PK hours decimal(9,2) hourlyrate decimal(9,2)
department		**Table: department** **Columns:** **dnumber** int PK dname varchar(20) location varchar(100)
employee		**Table: employee** **Columns:** fname varchar(20) lname varchar(20) **ssn** varchar(9) PK bdate date sex varchar(1) salary decimal(12,2) **dept_no** int
project		**Table: project** **Columns:** **pnumber** int PK pname varchar(50) **dept_no** int