CIS6300 Business Data Management
Assignment 3 [Due date: 9/19/19]
[Using Microsoft SQL Server Database]
Fall 2019

This assignment involves creation of database tables, fields, primary keys (PKs), foreign keys (FKs), and records on your SQL Server Database using SQL Editor. Different fields have different data types. For your convenience, common SQL Data Types are provided below:

Common SQL Server Data Types

Type	Description
CHAR	Fixed length character string
VARCHAR	Variable length character string
INT	Integer numbers
DECIMAL	Decimal values
DATE	Dates and Times

Note: There are **two** parts in this assignment.

1. Please complete both parts.
2. Copy and paste codes, results, and any other information that you need to provide on a single word document.
3. Post it on eLearning on or before the due date.

Part A

A **Sample** Database [**Employee Database**] Script is provided below:

Code for Creation of Tables where Fields and Primary Keys are defined (Keyword CONSTRAINT).

```
CREATE TABLE emplevel
       (LevelNo      INT,
       LowSalary     Decimal,
       HighSalary    Decimal,
       CONSTRAINT emplevel_levelno_pk PRIMARY KEY (LevelNo));

CREATE TABLE position
       (PositionId   INT,
       PosDesc       VARCHAR (20),
       CONSTRAINT position_positionid_pk PRIMARY KEY (PositionId));


CREATE TABLE qualification
       (QualId       INT,
       QualDesc      VARCHAR (20),
       CONSTRAINT qualification_qualid_pk PRIMARY KEY (QualId));

CREATE TABLE dept
       (DeptId       INT,
       DeptName      VARCHAR (12) NOT NULL,
       Location      VARCHAR (15),
       EmployeeId    INT,
       CONSTRAINT dept_deptid_pk PRIMARY KEY (DeptId));
```

Code for Creation of Tables where Fields, Primary Keys, and Foreign Keys are defined (Keyword CONSTRAINT). Note that FOREIGN KEY also establishes referential integrity.

```
CREATE TABLE employee
       (EmployeeId    INT,
       Lname         VARCHAR (15) CONSTRAINT employee_lname_nn NOT NULL,
       Fname         VARCHAR (15) CONSTRAINT employee_fname_nn NOT NULL,
       PositionId    INT,
       Supervisor    INT,
       HireDate      DATE,
       Salary        Decimal,
       Commission    Decimal,
       DeptId        INT NOT NULL,
       QualId        INT,
       CONSTRAINT employee_employeeid_pk
              PRIMARY KEY (EmployeeId),
       CONSTRAINT employee_positionid_fk FOREIGN KEY (PositionId)
              REFERENCES position (PositionId),
       CONSTRAINT employee_deptid_fk FOREIGN KEY (DeptId)
              REFERENCES dept (DeptId),
       CONSTRAINT employee_qualid_fk FOREIGN KEY (QualId)
              REFERENCES qualification (QualId));
```

```
CREATE TABLE dependent
       (EmployeeId   INT,
      DependentId    INT,
       DepDOB        DATE,
       Relation      VARCHAR (8),
       CONSTRAINT dependent_empiddepid_pk PRIMARY KEY (EmployeeId, DependentId),
       CONSTRAINT dependent_employeeid_fk FOREIGN KEY (EmployeeId)
              REFERENCES employee (EmployeeId));
```

Adding Foreign Key after creation of table [ALTER TABLE command is used].

```
ALTER TABLE employee
       ADD CONSTRAINT employee_supervisor_fk FOREIGN KEY(Supervisor)
       REFERENCES employee(EmployeeId);
```

Creating Data and storing them into respective tables [INSERT INTO command is used].

```
INSERT INTO position VALUES (1, 'President');
INSERT INTO position VALUES (2, 'Manager');
INSERT INTO position VALUES (3, 'Programmer');
INSERT INTO position VALUES (4, 'Accountant');
INSERT INTO position VALUES (5, 'Salesman');

INSERT INTO emplevel VALUES (1, 1, 25000);
INSERT INTO emplevel VALUES (2, 25001, 50000);
INSERT INTO emplevel VALUES (3, 50001, 100000);
INSERT INTO emplevel VALUES (4, 100001, 500000);

INSERT INTO qualification VALUES (1, 'Doctorate');
INSERT INTO qualification VALUES (2, 'Masters');
INSERT INTO qualification VALUES (3, 'Bachelors');
INSERT INTO qualification VALUES (4, 'Associates');
INSERT INTO qualification VALUES (5, 'High School');

INSERT INTO dept VALUES (10, 'Finance', 'Charlotte', 123);
INSERT INTO dept VALUES (20, 'InfoSys', 'New York', 543);
INSERT INTO dept VALUES (30, 'Sales', 'Woodbridge', 135);
INSERT INTO dept VALUES (40, 'Marketing', 'Los Angeles', 246);

INSERT INTO employee VALUES (111, 'Smith', 'John', 1, NULL,
      '04/15/1960', 265000, 35000, 10, 1);
INSERT INTO employee VALUES (246, 'Houston', 'Larry', 2, 111,
      '05/19/1967', 150000, 10000, 40, 2);
INSERT INTO employee VALUES (123, 'Roberts', 'Sandi', 2, 111,
      '12/02/1991', 75000, NULL, 10, 2);
INSERT INTO employee VALUES (543, 'Dave', 'Derek', 2, 111,
      '03/15/1995', 80000, 20000, 20, 1);
INSERT INTO employee VALUES (433, 'McCall', 'Alex', 3, 543,
      '05/10/1997', 66500, NULL, 20, 4);
INSERT INTO employee VALUES (135, 'Garner', 'Stanley', 2, 111,
```

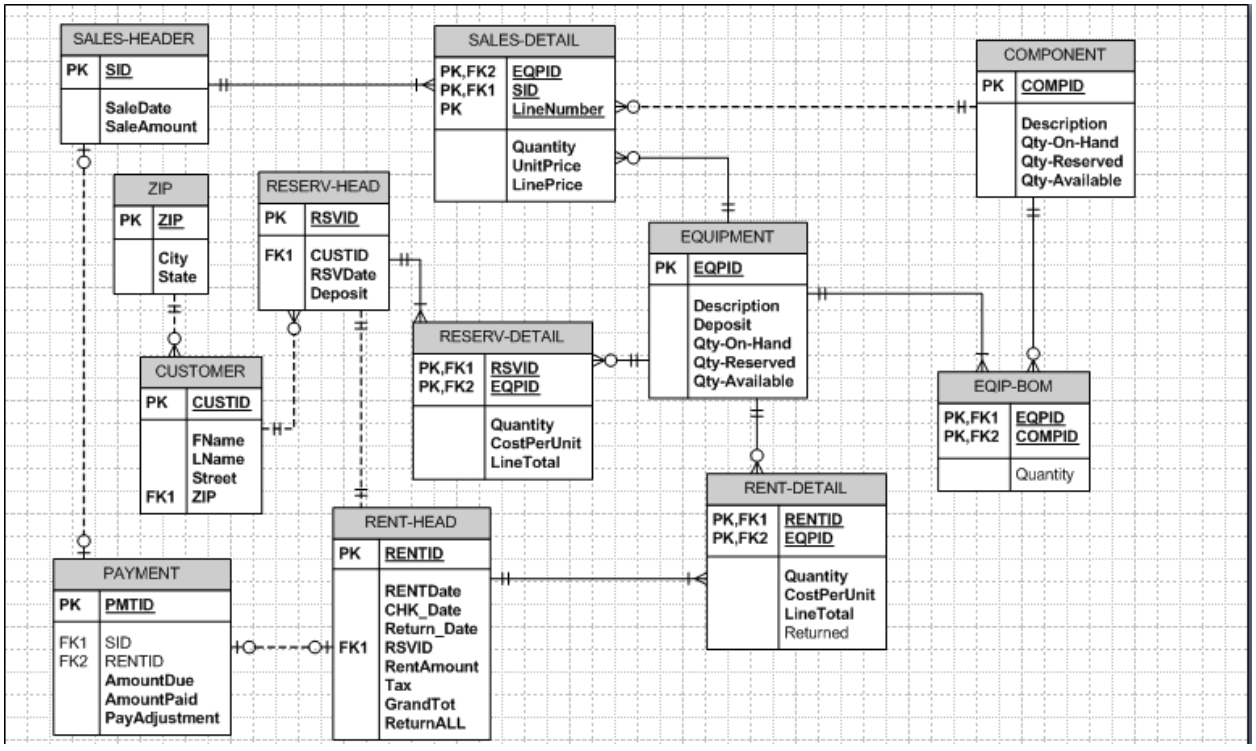
```
      '02/29/1996', 45000, 5000, 30, 5);
INSERT INTO employee VALUES (200, 'Shaw', 'Jinku', 5, 135,
      '01/03/00', 24500, 3000, 30, NULL);
INSERT INTO employee VALUES (222, 'Chen', 'Sunny', 4, 123,
      '08/15/1999', 35000, NULL, 10, 3);

INSERT INTO dependent VALUES (543, 1, '09/28/1958','Spouse');
INSERT INTO dependent VALUES (543, 2, '10/14/1988','Son');
INSERT INTO dependent VALUES (200, 1, '06/10/1976','Spouse');
INSERT INTO dependent VALUES (222, 1, '02/04/1975','Spouse');
INSERT INTO dependent VALUES (222, 2, '08/23/1997','Son');
INSERT INTO dependent VALUES (222, 3, '07/10/1999','Daughter');
INSERT INTO dependent VALUES (111, 1, '12/12/1945','Spouse');
```

Part A Deliverables [Based on SQL Code above]:

1. Identify Tables, fields, PKs, and FKs. As you know, database Tables are Entities and Fields are Attributes. Create an Entity Relation Diagram (ERD) based on the information. **Copy and paste the ERD on the Word document.** No need to show all attributes, just show PKs, and FKs for each relation (entity) in the diagram.

Part B

Following diagram represents **Teton Whitewater Kayak's (TWK's)** ERD. The **Teton Whitewater Kayak** case is also provided for you.



Part B Deliverables [Based on ERD above]:

1. Create all tables, relationships, Primary & Foreign keys in the MS SQL Server Database on my server (141.218.104.41). Use the database that I created for you. Identify appropriate Data Types for fields in all tables before starting creation of tables on SQL Server. For SQL help, you may look at Part A code examples. Once you are done creating tables and relationships, insert at least 2 records in each table.

   Note: A Foreign Key (FK) must have the same data type and length of the Primary Key of relate table. Common SQL Server data types (shown below):

   SQL Server Data Type Reference
   http://www.connectionstrings.com/sql-server-data-types-reference/

SQL Server Data Type
INT
VARCHAR
DATE

2. Provide SQL scripts that you have used to create all tables, relationships, primary and foreign keys on a word document.
3. Upload the word document on eLearning dropbox (**Everyone must do this step**).

**********Good Luck**********
**********Please let me know if you have any questions**********