

BUDT 703 Fall 2021 Homework #3 – SQL DDL

Due by 11:59pm, Monday, October 11th, 2021

Note: The file name must be saved as **HW3_YourLastName_YourFirstName.sql**. Add appropriate comments as needed.

Repeat steps below for the **Terps Enterprise, Inc.** normalized relations and referential integrity actions listed on the last page of this document (not what you submitted for Homework #2).

1. Compose SQL CREATE TABLE statements:
 - i. Use corresponding table name.
 - ii. Choose appropriate data type for each attribute.
 - iii. Identify and name the PRIMARY KEY.
 - iv. Identify and name each FOREIGN KEY with referential integrities if any.
2. Compose SQL INSERT INTO statements:
 - i. Insert at least one record into each table.
3. Compose SQL DROP TABLE statements:
 - i. Use the reversed order from CREATE TABLES.

Example: Publisher, Inc. normalized relations:

Relations:

Book (**bokISBN**, bokPubYear, bokPrice, bokPages)
Author (**autFirstName**, **autLastName**, autPhone)
Publisher (**pubName**)
PublisherPhone (pubName, **pubPhone**)
Editor (**pubName**, **edtName**, edtPhone)
Write (**bokISBN**, **autFirstName**, **autLastName**, wrtRole)
Review (**bokISBN**, **pubName**, rvwExpDate)
Sign (**bokISBN**, autFirstName, autLastName, pubName, sgnConDate)

Referential integrities:

Relation	Foreign Key	Base Relation	Primary Key	ON DELETE	ON UPDATE
PublisherPhone	(pubName)	Publisher	(pubName)	CASCADE	CASCADE
Editor	(pubName)	Publisher	(pubName)	CASCADE	CASCADE
Write	(bokISBN)	Book	(bokISBN)	CASCADE	CASCADE
Write	(autFirstName, autLastName)	Author	(autFirstName, autLastName)	CASCADE	CASCADE
Review	(bokISBN)	Book	(bokISBN)	NO ACTION	NO ACTION
Review	(pubName)	Publisher	(pubName)	NO ACTION	NO ACTION
Sign	(bokISBN)	Book	(bokISBN)	NO ACTION	NO ACTION
Sign	(autFirstName, autLastName)	Author	(autFirstName, autLastName)	NO ACTION	NO ACTION
Sign	(pubName)	Publisher	(pubName)	NO ACTION	NO ACTION

Example Answers:

SQL create tables:

```
CREATE TABLE [Publisher.Book] (  
    bokISBN CHAR (10) NOT NULL,  
    bokPubYear DATE,
```

```

        bokPrice DECIMAL (6,2),
        bokPages INTEGER,
        CONSTRAINT pk_Book_bokISBN PRIMARY KEY (bokISBN) )
CREATE TABLE [Publisher.Author] (
    autFirstName VARCHAR (20) NOT NULL,
    autLastName VARCHAR (20) NOT NULL,
    autPhone CHAR (10),
    CONSTRAINT pk_Author_autFirstName_autLastName
        PRIMARY KEY (autFirstName, autLastName) )
CREATE TABLE [Publisher.Publisher] (
    pubName VARCHAR (20) NOT NULL,
    CONSTRAINT pk_Publisher_pubName PRIMARY KEY (pubName) )
CREATE TABLE [Publisher.PublisherPhone] (
    pubName VARCHAR (20) NOT NULL,
    pubPhone CHAR (12) NOT NULL,
    CONSTRAINT pk_PublisherPhone_pubPhone PRIMARY KEY (pubPhone),
    CONSTRAINT fk_PublisherPhone_pubName FOREIGN KEY (pubName)
        REFERENCES [Publisher.Publisher] (pubName)
        ON DELETE CASCADE ON UPDATE CASCADE )
CREATE TABLE [Publisher.Editor] (
    pubName VARCHAR (20) NOT NULL,
    edtName VARCHAR (20) NOT NULL,
    edtPhone CHAR (10),
    CONSTRAINT pk_Editor_pubName_edtName PRIMARY KEY (pubName, edtName),
    CONSTRAINT fk_Editor_pubName FOREIGN KEY (pubName)
        REFERENCES [Publisher.Publisher] (pubName)
        ON DELETE CASCADE ON UPDATE CASCADE )
CREATE TABLE [Publisher.Write] (
    bokISBN CHAR (10) NOT NULL,
    autFirstName VARCHAR (20) NOT NULL,
    autLastName VARCHAR (20) NOT NULL,
    wrtRole VARCHAR (20),
    CONSTRAINT pk_Write_bokISBN_autFirstName_autLastName
        PRIMARY KEY (bokISBN, autFirstName, autLastName),
    CONSTRAINT fk_Write_bokISBN FOREIGN KEY (bokISBN)
        REFERENCES [Publisher.Book] (bokISBN)
        ON DELETE CASCADE ON UPDATE CASCADE,
    CONSTRAINT fk_Write_autFirstName_autLastName
        FOREIGN KEY (autFirstName, autLastName)
        REFERENCES [Publisher.Author] (autFirstName, autLastName)
        ON DELETE CASCADE ON UPDATE CASCADE )
CREATE TABLE [Publisher.Review] (
    bokISBN CHAR (10) NOT NULL,
    pubName VARCHAR (20) NOT NULL,
    rvwExpDate DATE,
    CONSTRAINT pk_Review_bokISBN_pubName PRIMARY KEY (bokISBN, pubName),
    CONSTRAINT fk_Review_bokISBN FOREIGN KEY (bokISBN)
        REFERENCES [Publisher.Book] (bokISBN)
        ON DELETE NO ACTION ON UPDATE NO ACTION,
    CONSTRAINT fk_Review_pubName FOREIGN KEY (pubName)

```

```

REFERENCES [Publisher.Publisher] (pubName)
ON DELETE NO ACTION ON UPDATE NO ACTION )
CREATE TABLE [Publisher.Sign] (
    bokISBN CHAR (10) NOT NULL,
    autFirstName VARCHAR (20) NOT NULL,
    autLastName VARCHAR (20) NOT NULL,
    pubName VARCHAR (20) NOT NULL,
    sgnConDate DATE,
    CONSTRAINT pk_Sign_bokISBN PRIMARY KEY (bokISBN),
    CONSTRAINT fk_Sign_bokISBN FOREIGN KEY (bokISBN)
        REFERENCES [Publisher.Book] (bokISBN)
        ON DELETE NO ACTION ON UPDATE NO ACTION,
    CONSTRAINT fk_Sign_autFirstName_autLastName
        FOREIGN KEY (autFirstName, autLastName)
        REFERENCES [Publisher.Author] (autFirstName, autLastName)
        ON DELETE NO ACTION ON UPDATE NO ACTION,
    CONSTRAINT fk_Sign_pubName FOREIGN KEY (pubName)
        REFERENCES [Publisher.Publisher] (pubName)
        ON DELETE NO ACTION ON UPDATE NO ACTION )

```

SQL insert data:

```

INSERT INTO [Publisher.Book] VALUES
    ('0132662256','7/26/2012',130.00,624)
INSERT INTO [Publisher.Author] VALUES
    ('Jeffrey A.','Hoffer','8000000000')
INSERT INTO [Publisher.Publisher] VALUES
    ('Prentice Hall')
INSERT INTO [Publisher.PublisherPhone] VALUES
    ('Prentice Hall','8880000000')
INSERT INTO [Publisher.Editor] VALUES
    ('Prentice Hall','Stephanie Wall','8770000000')
INSERT INTO [Publisher.Write] VALUES
    ('0132662256','Jeffrey A.','Hoffer','primary-author')
INSERT INTO [Publisher.Review] VALUES
    ('0132662256','Prentice Hall','12/31/2012')
INSERT INTO [Publisher.Sign] VALUES
    ('0132662256','Jeffrey A.','Hoffer','Prentice Hall','6/30/2012')

```

SQL remove tables:

```

DROP TABLE IF EXISTS [Publisher.Sign];
DROP TABLE IF EXISTS [Publisher.Review];
DROP TABLE IF EXISTS [Publisher.Write];
DROP TABLE IF EXISTS [Publisher.Editor];
DROP TABLE IF EXISTS [Publisher.PublisherPhone];
DROP TABLE IF EXISTS [Publisher.Publisher];
DROP TABLE IF EXISTS [Publisher.Author];
DROP TABLE IF EXISTS [Publisher.Book];

```

Terps Enterprise, Inc.**Relations:**

Employee (**ssn**, empFName, empMInit, empLName, empDOB, empGender, empStreet, empCity, empState, empZip, empSalary, *sprEmpSSN*, *dptId*)

Department (**dptId**, dptName, *mgrEmpSSN*, mgrStartDate)

DepartmentLocation (**dptId**, **dptLoc**)

Project (**prjId**, prjName, prjLoc, *dptId*)

Work (**empSSN**, **prjId**, hours)

Dependent (**empSSN**, **dptName**, dpdDOB, dpdGender, relationship)

Referential integrities:

FK Relation	Foreign Key	PK Relation	Primary Key	ON DELETE	ON UPDATE
Employee	(<i>sprEmpSSN</i>)	Employee	(<i>empSSN</i>)	NO ACTION	NO ACTION
Employee	(<i>dptId</i>)	Department	(<i>dptId</i>)	NO ACTION	NO ACTION
Department	(<i>mgrEmpSSN</i>)	Employee	(<i>empSSN</i>)	NO ACTION	NO ACTION
Location	(<i>dptId</i>)	Department	(<i>dptId</i>)	CASCADE	CASCADE
Project	(<i>dptId</i>)	Department	(<i>dptId</i>)	CASCADE	CASCADE
Work	(<i>empSSN</i>)	Employee	(<i>empSSN</i>)	NO ACTION	NO ACTION
Work	(<i>prjId</i>)	Project	(<i>prjId</i>)	NO ACTION	NO ACTION
Dependent	(<i>empSSN</i>)	Employee	(<i>empSSN</i>)	CASCADE	CASCADE

--SQL remove tables if exist:

--SQL create tables:

--SQL insert data: