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CSCI 3287 – Database Systems

Shrestha

Homework 3

-- Question 1:

CREATE DATABASE ClassAssignment;

-- Use Database

USE ClassAssignment;

-- Question 2:

CREATE TABLE Project(

project\_num INT NOT NULL PRIMARY KEY,

project\_code CHAR(4),

project\_title VARCHAR(45),

first\_name VARCHAR(45),

last\_name VARCHAR(45),

project\_budget DECIMAL(5,2)

);

-- Question 3

ALTER TABLE Project DROP PRIMARY KEY, MODIFY project\_num INT NOT NULL PRIMARY KEY AUTO\_INCREMENT FIRST;

ALTER TABLE Project AUTO\_INCREMENT=10;

-- Question 4

ALTER TABLE Project MODIFY project\_budget DECIMAL(10,2);

-- Question 5

INSERT INTO Project (project\_code, project\_title, first\_name, last\_name, project\_budget) VALUES

('PC01', 'DIA', 'John', 'Smith', 10000.99),

('PC02', 'CHF', 'Tim', 'Cook', 12000.50),

('PC03', 'AST', 'Rhonda', 'Smith', 8000.40);

-- Select statement for sanity check

-- SELECT \* FROM Project;

-- Question 6

CREATE TABLE PayRoll(

employee\_num INT PRIMARY KEY AUTO\_INCREMENT,

job\_id INT NOT NULL,

job\_desc VARCHAR(40),

emp\_pay DECIMAL (10,2)

);

-- Question 7

-- Part 1

ALTER TABLE PayRoll ADD CONSTRAINT emp\_pay CHECK (emp\_pay > 10000);

-- Part 2

ALTER TABLE PayRoll MODIFY job\_desc VARCHAR(40) DEFAULT 'Data Analyst';

-- Part 3

ALTER TABLE PayRoll ADD COLUMN pay\_date DATE AFTER job\_desc;

-- Sanity Check

-- SELECT \* FROM PayRoll;

-- Question 8

ALTER TABLE PayRoll ADD FOREIGN KEY (job\_id) REFERENCES Project(project\_num);

-- Question 9

INSERT INTO PayRoll (job\_id, pay\_date, emp\_pay) VALUES

(10, CURRENT\_DATE, 12000.99 ),

(11, CURRENT\_DATE, 14000.99 ),

(12, CURRENT\_DATE, 16000.99 );

-- Question 10

UPDATE PayRoll SET emp\_pay = TRUNCATE(emp\_pay \*1.10,2) WHERE employee\_num = 2;

-- Sanity Check Again

-- SELECT \* FROM PayRoll;

-- Question 11

CREATE TABLE Project\_backup AS SELECT \* FROM Project WHERE last\_name = 'Smith';

-- Another Sanity Check

SELECT \* FROM Project\_backup;

-- Question 12

CREATE VIEW PayRoll\_View AS SELECT job\_id, job\_desc, pay\_date FROM PayRoll WHERE job\_id > 10;

-- Sanity Check

-- SELECT \* FROM PayRoll\_View;

-- Question 13

CREATE INDEX pay\_date\_idx ON PayRoll(pay\_date);

-- Question 14

-- NOTE: Need to turn off safe mode for this :)

DELETE FROM Project\_backup;

-- Question 15

-- DELETE FROM Project WHERE project\_num = 10;

-- Errors: Error is as follows:

-- Error Code: 1451. Cannot delete or update a parent row: a foreign key constraint fails (`classassignment`.`payroll`, CONSTRAINT `payroll\_ibfk\_1` FOREIGN KEY (`job\_id`) REFERENCES `project` (`project\_num`))

-- This is because we are trying to delete the reference rather than trying to delete the original row, in order to delete this we'd have to delete the corresponding row in payroll first

-- Question 16

-- Setup Foreign Key With ON DELETE CASCADE so when you delete the child row, it deletes the parent row in the corresponding database

ALTER TABLE PayRoll DROP CONSTRAINT payroll\_ibfk\_1;

ALTER TABLE PayRoll ADD CONSTRAINT payroll\_ibfk\_1 FOREIGN KEY (job\_id) REFERENCES project(project\_num) ON DELETE CASCADE;

DELETE FROM Project WHERE project\_num = 10;