Grandfield College Scenario Module 7 Assignment

The college is feeling pressurized to get the new system in place. There could be an inspection of their IT services any time now, and they want to be ready. It is time to look at the business rules and test them with some SQL.

Documentation: Set up a test plan. Look at the business rules you developed previously and design some SQL queries to test them. List the rule, the SQL you wrote, and the results. Also note whether the database passes or fails the test.

1. SELECTs with various WHERE criteria **(ALL PASS)**

***-- Create and retrieve a list of all registered users***

SELECT COUNT(\*) AS Faculty\_Staff\_List

FROM Faculty\_Staff;

***-- Create and retrieve a list of all users with the specified email domain***

SELECT \*

FROM Administration

WHERE Contact\_Information LIKE '%@administration.grandfield.edu';

-- ***Create and retrieve a list of a specific software version***

SELECT \*

FROM Software\_Version

WHERE Software\_Version\_Key = 1;

2. AGGREGATE functions **(ALL PASS)**

***-- Create a counter of total faculty / staff***

SELECT COUNT(\*) AS Total\_Faculty\_Staff

FROM Faculty\_Staff;

***-- Create a counter of total software installation numbers***

SELECT COUNT(Software\_Installation\_Number) AS Total\_Software\_Installations

FROM Software\_Installations;

3. JOIN queries **(ALL PASS)**

***-- Display data with complete information for Grandfield\_College\_Database Software Information***

SELECT

Computer\_Users.User\_Information AS 'User Information',

Computers.Computers\_Key AS 'Computer #',

Computers.Computers\_ID AS 'Computer ID',

Software\_Version.Software\_Version\_Key AS 'Software Version #',

Software.Software\_Type AS SoftwareType,

Software\_Version.Version\_Number\_ID AS 'Version Number ID',

Software\_Installations.Software\_Installation\_Key AS 'Software Installation',

Software\_Installations.Software\_Installation\_Number AS 'Software Installation #'

FROM

Software\_Installations

JOIN

Computers ON Software\_Installations.Computers\_Key = Computers.Computers\_Key

JOIN

Computer\_Users ON Computers.Computers\_Key = Computer\_Users.Computers\_Key

JOIN

Software\_Version ON Software\_Installations.Software\_Version\_Key = Software\_Version.Software\_Version\_Key

JOIN

Software ON Software\_Version.Software\_Key = Software.Software\_Key;

***-- Display data with complete information for Software Versions***

SELECT

Computer\_Users.User\_Information AS 'User Information',

Computers.Computers\_ID AS 'Computer ID',

Software.Software\_Type AS 'Software Type',

Software\_Version.Version\_Number\_ID AS 'Version Number ID'

FROM

Software\_Installations

JOIN

Computers ON Software\_Installations.Computers\_Key = Computers.Computers\_Key

JOIN

Computer\_Users ON Computers.Computers\_Key = Computer\_Users. Computers\_Key

JOIN

Software\_Version ON Software\_Installations.Software\_Version\_Key = Software\_Version.Software\_Version\_Key

JOIN

Software ON Software\_Version.Software\_Key = Software.Software\_Key;

4. INSERT statements **(ALL PASS)**

***-- Create a new faculty/staff member (DONALD DUCK)***

INSERT INTO Faculty\_Staff (Faculty\_Staff\_Key, Faculty\_Staff\_ID, Contact\_Information)

VALUES (4, 1004, 'donald.duck@grandfield.edu');

INSERT INTO Computers (Computers\_Key, Computers\_ID)

VALUES (4, 4004);

***-- Insert the new user to the computer given***

INSERT INTO Computer\_Users (Computer\_Users\_Key, Computers\_Key, User\_Information)

VALUES (4, 4, 'donald.duck@grandfield.edu');

***-- Connect and store the software / software version / software installation for the new user and their computer***

INSERT INTO Software (Software\_Key, Software\_Type)

VALUES (4, 'Operating System 2');

INSERT INTO Software\_Version (Software\_Version\_Key, Software\_Key, Version\_Number\_ID)

VALUES (4, 4, 'v2.5');

INSERT INTO Software\_Installations (Software\_Installation\_Key, Software\_Version\_Key, Computers\_Key, Software\_Installation\_Number)

VALUES (4, 4, 4, 9003);

5. UPDATEs and DELETE statement **(ALL PASS)**

***-- Update a user from the Faculty/Staff Contact Information***

UPDATE Faculty\_Staff

SET Contact\_Information = 'micky.mouse.updated@grandfield.edu'

WHERE Faculty\_Staff\_Key = 1;

***-- Delete a software installation based on a user’s Computers ID***

DELETE FROM Software\_Installations

WHERE Computers\_Key = (SELECT Computers\_Key FROM Computers WHERE Computers\_ID = 1);