SQL-LAB04-DBS201-CONSTRAINTS ALTER

**Purpose:**

* **To apply constraints to tables**
* **FOREIGN KEY**
* **UNIQUE**
* **CHECK**
* **ALTER TABLES**
* **Testing constraints**

**1** Sign on to the iSeries Navigator.

At this stage we want to clear out all the other tables in the collection you created before, to ensure we have good data to work with.

**2** Use the following command and drop the tables

**DROP TABLE PREMA01.XXXXX** 🡨 the X's is to be replaced with your table names

🡪 The A01 part of PREMA01 should be globally replaced in the lab to your id

**(You may have chosen some other collection name, so use that)**

**It is important you look at how the constraints are applied**

**3** Create the table that holds the Sales Representatives data as follows

**DROP TABLE PREMA01.SALESREP**

**DROP TABLE PREMA01.CUSTOMER**

**CREATE TABLE PREMA01.SALESREP**

**( SID NUMERIC (2) PRIMARY KEY CHECK (SID > 10),**

**LAST VARCHAR (20) NOT NULL,**

**FIRST VARCHAR (20) NOT NULL,**

**STREET VARCHAR (60) NOT NULL,**

**CITY VARCHAR (20) NOT NULL with default 'Toronto',**

**PROV CHAR (2) NOT NULL with default 'ON',**

**PCODE CHAR (6) NOT NULL,**

**TOTAL\_COMM DECIMAL (7,2) CHECK (TOTAL\_COMM >= 0.00),**

**COMM\_RATE DECIMAL (3,2) CHECK (COMM\_RATE BETWEEN 0.01 AND 0.05)**

**);**

**CREATE TABLE PREMA01.CUSTOMER**

**( CID NUMERIC PRIMARY KEY,**

**LASTNAME VARCHAR(20) NOT NULL,**

**FIRSTNAME VARCHAR(20) NOT NULL,**

**STREET VARCHAR(30) NOT NULL,**

**CITY VARCHAR(20) NOT NULL with default 'Mississauga',**

**PROV CHAR(2) NOT NULL with default 'ON',**

**PCODE CHAR(6) NOT NULL,**

**BALANCE DECIMAL(7,2),**

**CREDITLIMIT DECIMAL(7,0),**

**SID NUMERIC(2) NOT NULL**

**);**

**INSERT INTO PREMA01.SALES\_REP**

**VALUES (10, '10LAST', '10FIRST', '10 TEN STREET', 'TORONTO', 'ON','M9W3S4', 0.0, 0.01);**

**INSERT INTO PREMA01.SALES\_REP**

**VALUES (21, '21LAST', '21FIRST', '21 ELEVEN STREET', 'TORONTO', 'ON','M9W3S4', 0.0, 0.02);**

**INSERT INTO PREMA01.SALES\_REP**

**VALUES (12, '12LAST', '12FIRST', '12 TWELVE STREET', 'TORONTO', 'ON' ,'M9W3S4', 0.0, 0.02);**

**INSERT INTO PREMA01.SALES\_REP**

**VALUES (11, '11LAST', '11FIRST', '11 ELEVEN STREET', 'TORONTO', 'ON','M9W3S4', 0.0, 0.02);**

**INSERT INTO PREMA01.SALES\_REP**

**VALUES (21, '21LAST', '21FIRST', '21 TWO-1 STREET', 'TORONTO', 'ON','M9W3S4', 0.0, 0.07);**

**INSERT INTO PREMA01.SALES\_REP**

**VALUES (22, '22LAST', '22FIRST', '22 TWO-2 STREET', 'TORONTO', 'ON','M9W3S4', 0.0, 0.05);**

**INSERT INTO PREMA01.SALES\_REP**

**VALUES (13, '13LAST', '13FIRST', '13 TWELVE STREET', 'TORONTO', 'ON','M9W3S4', 0.0, 0.02);**

**INSERT INTO PREMA01.CUSTOMER**

**VALUES (661, 'Last 661', 'First Name 661', '70 Pond Street', 'Toronto', ON', 'M9W1A9', 1000, 1000, 21);**

**INSERT INTO PREMA01.CUSTOMER**

**VALUES (662, 'Last 662', 'First Name 662', '662 Pond Street', 'Toronto', 'ON', 'M9W1A9', 550.00, 3000, 12);**

**INSERT INTO PREMA01.CUSTOMER**

**VALUES (663, 'Last 663','First Name 663','663 Pond Street', 'Toronto', 'ON', 'M9W1A9', 155.27, 1000, 12);**

**INSERT INTO PREMA01.CUSTOMER**

**VALUES (664, 'Last 664','First Name - 664','664 Pond Street', 'Toronto', 'ON', 'M9W1A9', 5000, 3000, 12);**

**INSERT INTO PREMA01.CUSTOMER**

**VALUES (665, 'Last 665','First Name - 665','665 Pond Street', 'Toronto', 'ON', 'M9W1A9', 1123.75, 10000, 22);**

**4** Insert one more row replacing the name and street fields with your data**.**

**INSERT INTO PREMA01.CUSTOMER**

**VALUES (666, 'Last name here’,’ First Namehere', 'student id here ', 'Toronto', 'ON', 'M9W1A9', 1123.75, 10000, 22);**

5 How to **delete rows from the table using the Navigator** GUI

Open the CUSTOMER table by right-clicking and select Edit Contents.

We want to delete a row of data.

Highlight the row by clicking at the very beginning of the row.

Now select Rows, then, Delete.

Note: You may receive a message that says:

"The table you are attempting to change is not being journaled, or you do not have the authority to the journal. If you want to continue, you will not be able to cancel the changes you make. Do you wish to continue?"

This is basically advising you that the UNDO option is unavailable to you.

Click YES to continue.

Answer YES to saving the changes to the file.

6 To Establish 1: M relationships between tables using foreign keys:

- The relationship between SALESREP and CUSTOMER is 1:M.

- This means that one particular salesrep can have many customers but,

- One particular customer has one and only one salesrep.

When we have found the information about a customer, we sometimes want information about that customer’s salesrep. To get the salesrep information we will use a field on the customer row called SID. We use that value to obtain information about the customer’s salesrep from the SALESREP table.

Did you notice that the SALESREP table does not have a Customer Number field?

🡺 Definition: A Foreign Key is a field on one table that is the Primary Key of another table.

The Foreign Key field is always placed on the "many" table when there is a 1-to-many relationship between 2 tables.

SUBMISSION:

Do the following

Write the answer of following question and show it personally next week to get marks during lab period.

**1. Name the types of constraints**

Started answer: **PK,**

**2. Can we add a constraint after the table has been built?**

**If yes, what is the KEY WORD (starting command)**

**3. Select all rows from the customer table that have a customer ID greater than 600**