University of the Cordilleras

College of Information Technology and Computer Science

SQL Individual Lab Activity No. 3

ICS 5 Lab - Section 2A – 5:30 – 6:45 MWF

Altering Table Structures

IMPORTANT: DO NOT proceed to this activity yet when Activity 2 is not yet finished. Let your instructor check Lab Activity No. 2 first before doing this activity.

Objectives:

- To demonstrate how to modify a database's table using SQL

Activity:

1. Open the Xampp Control Panel and start the MySQL module.
2. Open Windows Command Prompt and access the MySQL Database using the user account you have created on Lab Act 1.
3. Once inside MySQL prompt, use the database `BUS_DB_TerminalNo` that was created on Lab Act 2.
4. Below is the data dictionary of the FERRY TRIP MONITORING SYSTEM with some changes which are highlighted.

BUS TRIP MONITORING SYSTEM
DATA DICTIONARY

Table Name	Column	Description	Data Type and Length	Required	PK or FK
PASSENGER	PASSENGER_ID	Passenger's ID number	VARCHAR(10)	YES	PK
	PASSENGER_FNAME	Passenger's First Name	VARCHAR(20)	YES	N/A
	PASSENGER_LNAME	Passenger's Last Name	VARCHAR(20)	YES	N/A
	PASSENGER_BDATE	Passenger's Birth Date	DATE	YES	N/A
	PASSENGER_ADDRESS	**Passenger's Address**	**VARCHAR(100)**	**YES**	**N/A**
	PASSENGER_ADDRESS_ZIP	Passenger's Zip Code	VARCHAR(4)	YES	N/A
	PASSENGER_CONTACT_NO	Passenger's Contact Number	VARCHAR(15)	YES	N/A
BUS	BUS_NO	Bus' identification number	INT(5)	YES	PK
	BUS_MAKE	Bus' type and model	**VARCHAR(25)**	YES	N/A
	BUS_PLATE_NO	Bus' plate number	VARCHAR(8)	YES	N/A
	BUS_CAP	Bus' seating capacity	INT(2)	YES	N/A
	BUS_ACQ	Bus' acquisition date	DATE	YES	N/A
DRIVER	DRIVER_ID	Driver's ID number	INT(6)	YES	PK
	DRIVER _FNAME	Driver's First Name	**VARCHAR(30)**	YES	N/A
	DRIVER _LNAME	Driver's Last Name	**VARCHAR(30)**	YES	N/A
	DRIVER _BDATE	Driver's Birthdate	DATE	YES	N/A
ROUTE	ROUTE_NO	Route's number	INT(3)	YES	PK
	ROUTE_ORIGIN	**Route's Origin**	**VARCHAR(20)**	**YES**	**N/A**
	ROUTE_DESTINATION	**Route's Destination**	**VARCHAR(20)**	**YES**	**N/A**
	ROUTE_SCHEDULE	Route's Trip Schedule	DATE	YES	N/A

5. In the PASSENGER table, the columns `PASSENGER_ADDRESS_NO_STREET`, `PASSENGER_ADDRESS_CITY_MUN` and `PASSENGER_ADDRESS_PROVINCE` were replaced by only one column named `PASSENGER_ADDRESS`.

   This can be done by dropping the 3 columns and adding the new column `(PASSENGER_ADDRESS)`.

Enter the following SQL statements inside the `mysql>` prompt (make sure you are inside the database using the USE <database_name> command) to come with the desired Table's structure:

DROPPING THE COLUMNS:

```
ALTER TABLE PASSENGER
DROP COLUMN PASSENGER_ADDRESS_NO_STREET;
```

Follow the SQL statement to drop the other two columns.

6. To add a new column named PASSENGER_ADDRESS enter the following (still in `mysql>` prompt):

```
ALTER TABLE PASSENGER
ADD PASSENGER_ADDRESS VARCHAR(100) NOT NULL;
```

7. If successful, enter the `DESCRIBE PASSENGER;` command to display the table's updated structure. Is the PASSENGER_ADDRESS column the last column? If yes, research on the internet on how to change the position or arrangement of a column using MySQL. PASSENGER_ADDRESS shall be after the PASSENGER_BDATE column.

8. The BUS table has also a modification indicated in the data dictionary. Its data type length is changed from 20 to 25. Enter the following SQL command to modify an existing column's details:

```
ALTER TABLE BUS
MODIFY COLUMN BUS_MAKE VARCHAR(25);
```

9. Following the ALTER TABLE command format in no.8, modify also the data type length of DRIVER_FNAME and DRIVER_LNAME columns in the DRIVER table.

10. As you can notice, there is also a change on the ROUTE table. The `ROUTE_FROM_TO` was replaced with 2 separate columns named `ROUTE_ORIGIN` and `ROUTE_DESTINATION`. Following the method in modifying the PASSENGER table, perform ALTER TABLE ADD and DROP commands to follow the updated ROUTE table structure. Also follow the order of the columns.

11. Exit from mysql and make sure you are in C:\xampp\mysql\bin.
12. Save a backup of your database in Drive Z by typing **`mysqldump –u foo-2a2t1718 –p BUS_DB_`*`TerminalNo`*` > Z:\LastName_FirstName_Act3.sql`**
13. Enter the password when prompted.
14. Check your drive Z to verify if you have successfully saved a backup of your database.