Data Centric Web Applications

Lab 2 MySQL Review II

## Question 1.1

Use the show create table <table name> command to find out the structure of the salesperson\_table, and list the Primary Key(s) and Foreign Key(s).

A picture containing text

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Primary key – SID

Foreign keys – ISD

## Question 1.2

Use the show create table <table name> command to find out the structure of the salesperson\_city\_table, and list the Primary Key(s) and Foreign Key(s).

Calendar

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Primary keys – SID and City

Foreign keys - SID

## Question 1.3

Delete salesman S102 from the salesperson\_table.

What happens and why?

You get this error: **ERROR 1451 (23000): Cannot delete or update a parent row: a foreign key constraint fails (`salespersonsdb2p1`.`salesperson\_city\_table`, CONSTRAINT `salesperson\_city\_table\_ibfk\_1` FOREIGN KEY (`sid`) REFERENCES `salesperson\_table` (`sid**

As SID is a foreign key so deleting this entry would leave an anomaly as it is used as an entry in the salesperson\_city\_table and used there as a primary key

## Question 1.4

Delete salesman S106 from the salesperson\_table.

What happens and why?

**It deleted it as S106 wasn’t referenced in the salesperson\_city\_table**

## Question 1.5

Insert a new salesman in the *salesman\_table* as follows:

sid = ‘S107’ fname = ‘Tom’ surname = ‘Wilson’ dob = 1966-07-12

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## Question 1.6

Insert a new salesman in the *salesman\_table* as follows:

sid = ‘S108’ fname = ‘Pat surname = ‘O’Hara' dob = 1966-07-12

Text

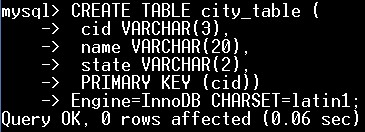
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## Question 1.7

Delete the salesperson\_city\_table as follows:



and create a new table called *city\_table* as follows:



CREATE TABLE city\_table(cid VARCHAR(3), name VARCHAR(20), state VARCHAR(2), PRIMARY KEY (cid))Engine=InnoDB CHARSET=latin1;

Populate it with the following data:

|  |  |  |
| --- | --- | --- |
| **cid** | **name** | **state** |
| ATL | Atlanta | GA |
| BOS | Boston | MA |
| DAL | Dallas | TX |
| HOU | Houston | TX |
| LA | Los Angeles | CA |
| NY | New York | NY |

## Question 1.8

Recreate the salesperson\_city\_table, this time with two columns:

o *sid* VARCHAR(20) which is a Foreign Key referring to the *sid* column in the salesperson\_table.

o *cid* VARCHAR(3) which is a Foreign Key referring to the *cid* column in the city\_table.

**HINT**: A Foreign Key is created using the following syntax:

**Foreign Key(***column***) References** *table\_name* **(***column\_in\_referenced\_table***)**.

* *commission* DOUBLE(4,2)
* o Primary Key is (*sid*, *cid*)
* **NOTE**: Make sure that Engine=InnoDB and charset=latin1 as shown in the previous question.

**CREATE TABLE salesperson\_city\_table(**

**sid VARCHAR(20),**

**cid VARCHAR(3),**

**commission DOUBLE(4,2),**

**PRIMARY KEY (sid, cid),**

**FOREIGN KEY(cid) REFERENCES city\_table(cid),**

**FOREIGN KEY(sid) REFERENCES salesperson\_table(sid))**

**Engine=InnoDB CHARSET=latin1;**

## Question 1.9

Populate the salesperson\_city\_table so that the following are associated:

|  |  |  |
| --- | --- | --- |
| **salesperson** | **city** | **commission** |
| Tom Smith | Boston | 4.10 |
| Tom Smith | New York | 5.20 |
| Betty Jones | Boston | 3.20 |
| Mick Clark | Dallas | 3.09 |
| Anne Collins | Dallas | NULL |
| Jim Flynn | Atlanta | 3.23 |
| Jim Flynn | Boston | NULL |
| Chloe Smyth | Boston | 5.13 |

**LOAD DATA LOCAL INFILE ‘*filepath*’**

**INTO TABLE salesperson\_city\_table**

**FIELDS TERMINATED BY ','**

**ENCLOSED BY '"'**

**LINES TERMINATED BY '\n'**

**IGNORE 1 ROWS;**

## Question 1.10

Delete *Houston* from the city\_table.

What happens and why?

delete from city\_table where cid = "HOU";

**Removes it as we had no Houston entries in salesperson\_city\_table**

## Question 1.11

Delete *Boston* from the city\_table.

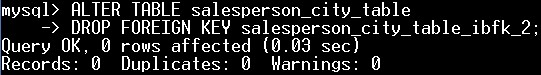
What happens and why?

delete from city\_table where cid = "BOS";

**It cannot remove the city as it is used as a foreign key in another table, in this instance,salesperson\_city\_table**

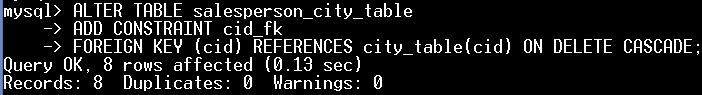
## Question 1.12

Remove the Foreign Key constraint to the *city\_table* from the *salesperson\_city\_table* as follows:



**NOTE**: The *salesperson\_city\_table\_ibfk\_2* refers to the name of the Foreign Key constraint in the salesperson\_city\_table and can be found by using the SHOW CREATE TABLE command.

Create a new Foreign Key constraint on the *salesperson*\_*city\_table* to *city\_table* as follows:



## Question 1.13

Delete *Boston* from the *city\_table*.

What happens and why?

**Removes it as we removed the constraint for removing foreign keys**

# Part 2

* Get salespersonsDB2P2.sql from Moodle.

* Import it into MySQL described in Lab 1.

## Question 2.1

Show the *fname, surname*, *salary* and a column entitled *Band* for each salesperson. The *Band* column should contain “High” if the salesperson’s salary > 50,000 otherwise it should contain nothing.

Text

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## Question 2.2

Show the *fname, surname, dob* and a column entitled *Week Part* for each salesperson. The *Week Part* column should contain “Yes” if the salesperson was born on the weekend, otherwise “NO”.

Graphical user interface, text

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## Question 2.3

Show the *sid, cid, commission* and a column entitled *Review* for each salesperson. The *Review* column should contain “Review” if the salesperson’s commission in Boston is greater than 4.0.

Graphical user interface, text

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## Question 2.4

Show all details and a column entitled *Season* for each salesperson.

The *Season* column should contain:

o “Spring” if the salesperson was born in February, March, or April

o “Summer” if the salesperson was born in May, June, or July

o “Autumn” if the salesperson was born in August, September, or October

o “Winter” if the salesperson was born in November, December, or January

Calendar

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## Question 2.5

Show the *fname, surname, salary* and a column entitled *Salary Scope* for each salesperson.

The *Salary Scope* column should contain:

o “40K” if salesperson’s salary is 40,000.00 to 49999.99

o “50K” if salesperson’s salary is 50,000.00 to 59999.99

o “60K” if salesperson’s salary is 60,000.00 to 69999.99

o “Out of range” otherwise

Text

Description automatically generated with medium confidence

## Question 2.6

Show the *sid*, *cid*, and a column entitled *Earned Commission* for each salesperson and the city/cities they operate in.

The *Earned Commission* column should contain:

o The commission the salesperson earns in each city he/she operates in, if the commission is not NULL.

o The string “*None*” if the salesperson’s commission is NULL for a particular city.

Text

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