**Practice for SQL**

**Part 1: SQL In-Putting Data into the Data Base**

(You don’t need to do this in SQL Workbench).

Consider the following schema for a consulting company named MarketCo. The data base helps track the communication between employees of the MarketCo and the contact person of their clients (company). Here is some information that will help you:

* The schema (database) name is **wsDB**;
* The **Company** table contains companies that are clients of the MarketCo.;
* The **Contact** table contains the information of the contact person in client companies;
* The **Employee** table contains the information of the employees working in MarketCo;
* The **Contact-Employee** table contains the contact details between the employee and the contact person of the client company.



Some basic SQL syntax to get you started:

* To create a new table (example with two columns and a foreign key):
CREATE TABLE schema\_name.table\_name (
columnName1 datatype [NULL][NOT NULL],
columnName2 datatype [NULL][NOT NULL],
PRIMARY KEY (KeyName),

FOREIGN KEY (ForeignKeyName) REFERENCES reference\_table\_name(ReferenceKeyName));

* To drop a table:

DROP TABLE schema\_name.table\_name;

* To add a column to the table:

ALTER TABLE schema\_name.table\_name
ADD COLUMN column\_name datatype [NULL][NOT NULL];

* To remove a column from the table:

ALTER TABLE schema\_name.table\_name

DROP COLUMN column\_name;

* To change a column in the table:

ALTER TABLE schema\_name.table\_name

CHANGE COLUMN old\_column\_name new\_column\_name datatype [NULL][NOT NULL];

* To insert a record into a table:
INSERT INTO schema\_name.table\_name (columnName1, columnName2, columnName3)
VALUES (value1, value2, value3);
* To change data in a row:
UPDATE schema\_name.table\_name SET columnName1=value1, columnName2=value2
WHERE condition;
* To delete a row from a table:
DELETE FROM schema\_name.table\_name WHERE condition;

**Write the SQL statement (just one for each question) that performs the following tasks.**

**1). Create the Company table using SQL.**

2). Now we think 45 characters for City is not necessary. Let’s changeit to 15 characters.

3). Let’s add two companies to the table:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CompanyID** | **CompanyName** | **Street** | **City** | **State** | **Zip** |
| 101 | Comcast | 1701 JFK Blvd. | Philadelphia | PA | 19103 |
| 102 | Verizon | 140 West St. | New York | NY | 10007 |

4). Now let’s change the CompanyName of Verizon to Verizon Communications and the Zip code to 10007-1111:

5). You forgot to add the description column in **Contact-Employee** table. Please add this column.

**Part 2: SQL Out-Join tables and Subselect**

(You can but not need to use SQL Workbench)

Please consider the following schema moviedb. And answer the following question.



Some basic SQL syntax to get you started:

* To select fields from a table:
SELECT column\_name(s) FROM schema\_name.table\_name
WHERE condition [AND condition]
* To apply a function (COUNT, SUM, AVG, MIN, MAX) to a column:
SELECT function(column\_name) FROM schema\_name.table\_name
* You may also use some of the following SQL keywords or functions
	+ DISTINCT
	+ WHERE
	+ AND/OR
	+ COUNT, AVG, MIN, MAX, SUM
	+ GROUP BY
	+ ORDER BY (ASC/DESC)
* Here is a full syntax for SELECT

SELECT [DISTINCT] expression(s)

FROM schema\_name.table\_name(s)

[WHERE condition(s)]

[GROUP BY expression(s)]

[ORDER BY expression(s) [ ASC | DESC ]]

[LIMIT number\_rows];

**Questions**

#1 Who are the actors of the movie “Flash Wars”?

#2 Please identify the 3 most valuable customers who rented most often.

#3 For different film ratings (i.e., G, PG, R, NC-17), which rating has the highest average rental rate?

#4. What are the title and length for films rated PG and longer than average length?

#5 What's the most expensive (in terms of rental rate) film by Salma Nolte? And waht is the rental rate?