

## C2- S6 - PRACTICE

*NOTE: check your **THEORY slides** to answer those questions!*

### EXERCISE 1 – DISCOVER ON DELETE CASCADE STATEMENT

We want to manage Student and Class:

- ✓ A student always has one class (Example: Lyhour is in WEP B)
- ✓ A class can have many students (Example: WEP A has all the second year girls)

#### PART 1 – WITHOUT <ON DELETE CASCADE>

**Q1** - What is the relation between Student and Class table?

**Q2** - Complete the missing field in the Student table.

**Q3** - For each table, complete the following arrays, by specifying for each field:

- The field type (SQL type) and size
- Can be null or not?
- Is a primary key or foreign keys?

#### CLASS TABLE

Field	Type / size	Null?	Key
class_id			
name			

#### STUDENT TABLE

Field	Type / size	Null?	Key
student_id			
first_name			
last_name			
class_id			

**Q4** - Write the SQL statement to create the 2 tables with appropriate properties

**Q5** – Write the statement to insert the following classes and students

Notes:

- We don't specify the KEY, it's your business!

**CLASS**

Name
WEP A
WEP B
SNA

**STUDENT**

First Name	Last Name	His/her class
Lyhour	Ngorn	WEP B
Koem Sak	Mean	WEP B
Kunthy	Sen	WEP A
Channary	Pha	WEP A
Chanthu	Tha	WEP B

**Q6** – Write the statement to delete the class WEP A

- What happens? Can we delete it? Why?

## PART 2 – WITH <ON DELETE CASCADE>

**Q7** - Write the statement to delete the table student

**Q8** – Write the statement to create again the table student, but this time, you need to add ON DELETE CASCADE next to the line where you reference the foreign key class\_id.  
Like in this example:

```
-----  
CREATE TABLE hard_candy  
  
  (candy_num INT,  
  
   candy_flavor CHAR(20),  
  
   FOREIGN KEY (candy_num) REFERENCES all_candy ON DELETE CASCADE);  
-----
```

**Q9** - Write the statement to insert again the following students in the student table (same statement as Q5).

### STUDENT

First Name	Last Name	His/her class
Lyhour	Ngorn	WEP B
Koem Sak	Mean	WEP B
Kunthy	Sen	WEP A
Channary	Pha	WEP A
Chanthy	Tha	WEP B

**Q10** - Write the statement to delete the class WEP A  
- What happens? Can we delete it?

**Q11** - Write the statement to show the data that is in the Student table. Try to understand why some students don't appear anymore.

## EXERCISE 2 – INTRODUCTION TO BOOLEAN DATA TYPE

In the following questions, you need to choose between the suggested answers which data type is the right one to use for the attribute. You need to use this webpage:

[https://www.w3schools.com/mysql/mysql\\_datatypes.asp](https://www.w3schools.com/mysql/mysql_datatypes.asp)

and explain your answer each time.

**Q1** – What is the best data type to use for the attribute **first name** of the entity **Student**

- A. CHAR(50)
- B. VARCHAR(50)
- C. BOOLEAN
- D. VARCHAR(3)

**Q2** - What is the best data type to use for the attribute **completed** of the entity **Task**

- A. VARCHAR(3)
- B. INT(1)
- C. BOOLEAN
- D. BOOL

**Q3** – What is the best data type to use for the attribute **duration** of the entity **Movie**

- A. DATE
- B. TIME
- C. INT(3)
- D. TIMESTAMP

**Q4** – What is the best data type to use for the attribute **activated** of the entity **Traffic light**

- A. INT(1)
- B. BOOLEAN
- C. CHAR(3)
- D. BOOL

**Q5** – What is the best data type to use for the attribute **passed** of the entity **Exam**

- A. TIME
- B. VARCHAR(5)
- C. BOOLEAN
- D. STRING

**Q6** – What is the best data type to use for the attribute **date of birth** of the entity **Student**

- A. TIME
- B. DATE
- C. DATETIME
- D. INT(100)

### EXERCISE 3 – NEED TO UPDATE DATA OF AN EXISTING TABLE

CUSTOMER			
Name	Type	Description	
ID	INT(100)	A customer ID in the inclusive range [1, 1000]. This is the primary key.	
NAME	VARCHAR(2)	A customer name. This field contains between 1 and 100 characters (inclusive).	
COUNTRY	CHAR(10)	The country of the customer.	
CREDITS	INT(1000)	The credit limit of the customer.	
ACCOUNT ACTIVATED	BOOLEAN	Tells if the customer's account is activated or not	

**Q1** – Write the statement to create the **Customer** table with the appropriate properties

**Q2** – Write the statement to modify the type of the column **Country** from CHAR(10) to VARCHAR (20)

**Q3** – Write the statement to modify the name of the column **Name** to **First Name**

**Q4** – Write the statement to modify the type of the column **First Name** from VARCHAR(2) to VARCHAR(50).

**Q5** – Write a statement to add a new column to the table **Customer**, called **Last Name**

**Q6 – Write a statement to insert all the following data in the table **Customer****

First Name – Last Name – Country – Credits – Account activated

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Diane Reynolds UK 9260714 FALSE  
Larry Burke USA 7414650 FALSE  
Dennis Reid Singapore 2721484 FALSE  
Joe Cruz Canada 7776372 FALSE  
Robin Shaw Albania 4793116 FALSE  
Donald Morrison China 1384666 FALSE  
Eugene Hall UK 8910281 FALSE  
Donald Gilbert Albania 6669850 FALSE  
Samuel Harvey USA 5719094 FALSE  
Robin Scott Singapore 6929083 FALSE

**Q7 – All the customers from the USA now have their account activated: write a statement to modify the data of the right records to take it into account.**

**Q8 – Diane got married with Samuel so here last name changed from Reynolds to Harvey-Reynolds. Write a statement to update the data in the right record.**

**Q9 – The company does not work in the UK anymore so they don't need the data of their former UK customers. Write a statement to delete the records of the UK customers.**