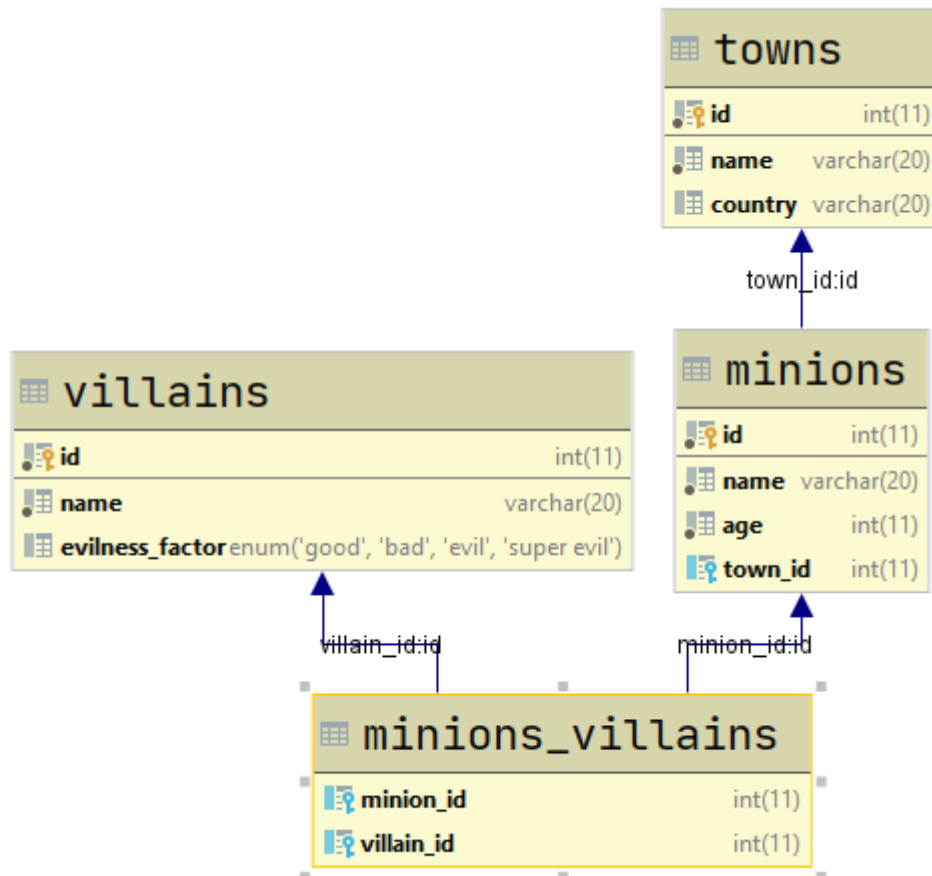# Exercises: Introduction to DB Apps

This document defines the exercise assignments for the "Spring Data" course @ SoftUni.

1. Initial Setup

Be familiar with database "**minions_db**". Here is an ER diagram:

Exequte sql file that was given to you

2. Get Villains' Names

Write a program that prints on the console **all villains' names** and their **number of minions**. Get only the villains who have more than 15 minions. **Order** them by number of minions in **descending order**.

Example

Output
Flo 16

3. Get Minion Names

Write a program that prints on the console **all minion names** and their **age** for given **villain id.** For the output, use the formats given in the examples.

Example

Input	Output
1	Villain: Carl 1. Annabella 34 2. Eldredge 32 3. ...

Input	Output
3	Villain: Arabele 1. Davey 22 2. Orsola 16 3. ...

Input	Output
2	Villain: Crissy 1. Gayleen 14 2. Skipp 16 3. ...

Input	Output
10	No villain with ID 10 exists in the database.

4. Add Minion

Write a program that reads information about a minion and its villain and **adds it to the database**. In case the town of the minion is not in the database, insert it as well. In case the villain is not present in the database, add him too with default evilness factor of "evil". Finally, set the new minion to be servant of the villain. Print appropriate messages after each operation – see the examples.

Example

Input	Output
Minion: Robert 14 Berlin Villain: Gru	Villain Gru was added to the database. Successfully added Robert to be minion of Gru.
Minion: Cathleen 20 Liverpool Villain: Gru	Town Liverpool was added to the database. Successfully added Cathleen to be minion of Gru.
Minion: Mars 23 Sofia Villain: Poppy	Villain Poppy was added to the database. Successfully added Mars to be minion of Poppy
Minion: Carry 20 Eindhoven Villain: Jimmy	Town Eindhoven was added to the database. Villain Jimmy was added to the database. Successfully added Carry to be minion of Jimmy

5. Change Town Names Casing

Write a program that **changes all town names to uppercase** for a given country. **Print the number of towns that were changed** in the format provided in examples. On the next line **print** the **names that were changed**, separated by coma and a space.

Example

Input	Output
Bulgaria	3 town names were affected. [SOFIA, PLOVDIV, BURGAS]
Italy	No town names were affected.

6. *Remove Villain

Write a program that receives an **ID** of a villain, **deletes him from the database** and **releases his minions** from serving him. As an output print the name of the villain and the number of minions released. Make sure all operations go as planned, **otherwise do not make any changes** to the database. For the output use the format given in the examples.

SoftUni Foundation

Example

Input	Output
1	Carl was deleted
	16 minions released
3	Arabele was deleted
	14 minions released
101	No such villain was found

7. Print All Minion Names

Write a program that **prints all minion names** from the minions table **in order** first record, last record, first + 1, last – 1, first + 2, last – 2... first + n, last – n.

Example

Original Order	Output
May	May
Brina	Brandie
Roslyn	Brina
Virgie	Tara
Nananne	Roslyn
Gayleen	Theodor
...	...
...	...
...	...
Lu	Katine
Theodor	Skipp
Tara	Chevalier
Brandie	Abbe

8. Increase Minions Age

Read from the console minion IDs, separated by space. **Increment the age** of those minions **by 1** and make their **names title to lower case**. Finally, **print** the **names** and the **ages** of **all minions** that are in the database. See the examples below.

Example

minions		
Id	**name**	**age**
1	May	44
2	Brina	43
3	Roslyn	50
4	Virgie	53
5	Nananne	23
...	...	...

Input	Output
2 1 4	may 45
	brina 44
	Roslyn 50
	virgie 54
	Nananne 23
	...

9. Increase Age Stored Procedure

Create a stored procedure **usp_get_older** (**directly in the database** using **MySQL Workbench** or any other similar tool) that receives a **minion_id** and **increases the minion's years by 1**. Write a program that **uses that stored procedure to increase the age** of a minion, whose **id** will be given as an input from the console. After that **print the name and the age** of that minion.