**Activity 2.1 - SQLite**

The objective of this activity is to practice installing a lightweight SQLite database and handling it in console mode, from the Command Prompt window.

**Upload a document with the code and explanations on how you are solving the activity. Upload also the database file.**

**1. Create a Database with SQLite**

Use SQLite to create a database called act2.1.db in a path like ./Unit2/Act2.1-SQLite.

Create the tables Departments and Teachers, with the following structure:

| **Departments** | |  | **Teachers** | |
| --- | --- | --- | --- | --- |
| **dept\_num** | **int primary key** |  | **id** | **int primary key** |
| name | varchar(20) |  | name | varchar(15) |
| office | varchar(20) |  | surname | varchar(40) |
|  |  |  | email | varchar(50) |
|  |  |  | start\_date | date |
|  |  |  | *dept\_num* | *References Departments* |

CREATE TABLE Departments

(

dept\_num int primary key,

name varchar(20),

office varchar(20)

);

CREATE TABLE Teachers

(

id int primary key,

name varchar(15),

surname varchar(40),

email varchar(50),

start\_date date,

dept\_num References Departments (dept\_num)

);

**2. Insert data**

Insert these data in Departments:

10, INFORMATICA, DESPA6

20, COMERCIO, DESPA7

30, ADMINISTRATIVO, DESPA8

40, FOL, DESPA5

INSERT INTO Departments (dept\_num, name, office)

VALUES (10, 'INFORMATICA', 'DESPA6'),

(20, 'COMERCIO', 'DESPA7'),

(30, 'ADMINISTRATIVO', 'DESPA8'),

(40, 'FOL', 'DESPA5');

Insert these data in Teachers:

1, Luz Martinez, luz.martinez@iesabastos.org, 01/01/90

2, Cristina Ausina, c.ausina@iesabastos.org, 01/02/90

3, Imma Cabanes, i.cabanes@iesabastos.org, 01/03/90

4, Mercedes Sánchez, m.sanchez@iesabastos.org

INSERT INTO Teachers(id, name, surname, email, start\_date, dept\_num)

VALUES (1, 'Luz', 'Martinez', 'luz.martinez@iesabastos.org', '90-01-01', 10),

(2, 'Cristina', 'Ausina', 'c.ausina@iesabastos.org', '90-02-01', 10),

(3, 'Imma', 'Cabanes', 'i.cabanes@iesabastos.org', '90-03-01', 10),

(4, 'Mercedes', 'Sánchez', 'm.sanchez@iesabastos.org', NULL, 40);

**3. Queries**

Make the following queries:

1. All teachers from the INFORMATICA department.

**Query**

SELECT Teachers.id, Teachers.name, Teachers.surname, Teachers.email,

Teachers.start\_date, Departments.name

FROM Teachers,

Departments

WHERE Teachers.dept\_num == Departments.dept\_num

AND Departments.name == 'INFORMATICA';

**Result**

1|Luz|Martinez|luz.martinez@iesabastos.org|01/01/90|INFORMATICA

2|Cristina|Ausina|c.ausina@iesabastos.org|01/02/90|INFORMATICA

3|Imma|Cabanes|i.cabanes@iesabastos.org|01/03/90|INFORMATICA

2. For each department, obtain all its data and the number of teachers it has.

**Query**

SELECT *COUNT*(*\**), Departments.name

FROM Teachers,

Departments

WHERE Teachers.dept\_num == Departments.dept\_num

GROUP BY Teachers.dept\_num;

**Result**

3|INFORMATICA

1|FOL

3. Show the name and surname of each teacher and their department, ordered alphabetically by surname.

**Query**

SELECT Teachers.name, Teachers.surname, Departments.name

FROM Teachers,

Departments

WHERE Teachers.dept\_num == Departments.dept\_num

ORDER BY surname;

**Result**

Cristina|Ausina|INFORMATICA

Imma|Cabanes|INFORMATICA

Luz|Martinez|INFORMATICA

Mercedes|Sánchez|FOL