Activity 2.2 - Apache Derby

The objective of this activity is to understand the similarities between installing and working with different DBMS in 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 Derby
Use Derby to create a database called act2.2 in a path like ./Unit2/Act2.2-Derby.
Create the tables Departments and Teachers, with the following structure:

Departments	
<u>dept_num</u>	<u>int primary key</u>
name	varchar(20)
office	varchar(20)

Teachers	
<u>id</u>	<u>int primary key</u>
name	varchar(15)
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),
```

```sql
    surname    varchar(40),
    email      varchar(50),
    start_date date,
    dept_num   int References Departments (dept_num)
);
```

2. Insert data

Insert these data in Departments:

10, INFORMATICA, DESPA6

20, COMERCIO, DESPA7

30, ADMINISTRATIVO, DESPA8

40, FOL, DESPA5

```sql
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

```sql
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. Show the teachers (name, surname and email) that started 20 or more years ago.

Query

```sql
SELECT Teachers.name, Teachers.surname, Teachers.email
FROM Teachers
WHERE (YEAR(start_date) + 20) ≤ YEAR(CURRENT DATE);
```

Result

```
Luz,Martinez,luz.martinez@iesabastos.org
Cristina,Ausina,c.ausina@iesabastos.org
Imma,Cabanes,i.cabanes@iesabastos.org
```

2. Show all teachers in the office DESPA6.

Query

```sql
SELECT Teachers.id, Teachers.name, surname, office
FROM Teachers,
     Departments
WHERE Teachers.dept_num = Departments.dept_num
 AND Departments.office = 'DESPA6';
```

Result

```
1,Luz,Martinez,DESPA6
2,Cristina,Ausina,DESPA6
3,Imma,Cabanes,DESPA6
```

3. For all teachers of the department of FOL , update their start date to 01/09/2000.

Query

```sql
UPDATE Teachers
SET start_date = '2000-09-01'
WHERE id = (SELECT Teachers.id
            FROM Teachers,
                 Departments
```

```
        WHERE Teachers.dept_num = Departments.dept_num
          AND Departments.name = 'FOL');
```

Result

4,Mercedes,Sánchez,m.sanchez@iesabastos.org,2000-09-01,40