



GI541: Introduction to Information Systems

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Lab Session 4

Objective of the Lab:

The objective of this lab session is to master the concept of the Cartesian product and joins between tables in a database, as well as aggregation functions and set operators.

Project

Given the following relational schema:

- **PERSON** (personID, personName, age)
- **RESTAURANT** (restaurantID, restaurantName, city)
- **RESERVATION** (#personID, #restaurantID, date)

Queries to Formulate

1. The names of the people who made reservations in **February 2020** in **Tlemcen**.
2. The cities of the restaurants where **Yasmine** has been.
3. The identifiers of the people who are **older than 21** or who went to the restaurant **“El Bena”**.
4. The identifiers of the people who are **older than 21** and who **did not** make any reservation at **“Best Cook”**.
5. The names of the people who made **at least two reservations**.
6. The names of the people **older than Samah**.
7. The names of the restaurants reserved by **Rachad or Yasmine**.
8. The names of the people (**without duplicates**) who made a reservation at **“El Bena”** and **“Best Cook”**.
9. The **average age** of the clients who reserved at the restaurant **“El Bena”**.
10. The names of the people who made reservations, sorted in **descending order of age** (from oldest to youngest).

Tasks to Complete:

Students are required to:

1. Create a new database using MS Access (or OpenOffice Base).
2. Create the tables **Personne**, **Restaurant**, and **Reservation**.
3. Configure the primary and foreign keys.
4. Insert at least 5 rows into each table.
5. Write the 10 **relational algebra expressions** and **SQL queries** on a separate sheet.
6. Implement the queries in MS Access.
7. Submit your handwritten answers and the database file at the end of the session.