

Level: 2nd Year Bachelor's in Computer Science (2025/2026)

Module: Databases

TP 3: Relational Algebra

Connect your **Blood-Donation** database to the RAT tool and execute the following queries using Relational **Algebra** based on the following schema:

Donor (**Donor_ID**, First_Name, Last_Name, Gender, Date_Of_Birth, Blood_Type, Phone)

Donation (**Donation_ID**, Donation_Date, Volume_ML, Donation_Type, #***Donor_ID***)

Blood_Inventory (**Unit_ID**, Blood_Type, Collection_Date, Expiration_Date, Status, #***Donation_ID***)

Recipient(**Recipient_ID**, First_Name, Last_Name, Gender, Date_Of_Birth, Blood_Type, Hospital_name, Town)

Transfusion (**Transfusion_ID**, Transfusion_Date, #***Recipient_ID***, #***Unit_ID***)

- 1- Get the first and last names of all donors.
- 2- Find all donors who have donated more than 450 mL of blood.
- 3- List the first names and last names of recipients from Algiers.
- 4- List the blood inventory that expired before 2025.
- 5- Find all recipients who have blood type A+ or O+ using the union
- 6- The same question but using the OR operator
- 7- List all the donations made in January 2025.