

Provided Material:

The Excel file “**Blood_Bank_Database.xlsx**” is available to students. It contains the data required for all practical sessions.

PART 1: Importing the Database

1. Download the Excel file **Blood_Bank_Database.xlsx** provided by your instructor.
2. Open **Microsoft Access** and create a new database named: **Blood-Donation**
3. Import all tables from the Excel file while respecting:
 - The same table names
 - The same attributes
 - Verification of attribute data types
 - The primary keys
4. After importing, verify that all tables are correctly created and contain data.

PART 2: Schema Visualization and Relationships

1. Open the **Relationships (Schema Viewer)** in MS Access.
2. Identify the primary keys and foreign keys.
3. Create relationships between the tables based on logical links
4. Enable **Referential Integrity** for every relationship.
5. Save the schema and verify that all tables are connected correctly.

PART 3: Referential Integrity Tests

Perform the following operations and explain the result observed in MS Access.

1. Try to delete a record from a parent table that is referenced in a child table.
What happens? Why?
2. Attempt to insert a record with a foreign key that does not exist in the referenced table.
Is the insertion accepted?
3. Modify a primary key value that is already referenced by another table.
Does Access allow this modification?
4. Try deleting a blood unit that has already been used in a transfusion.
What does this demonstrate about data integrity?

PART 4: Connecting RAT to the Database

1. Open the **Relational Algebra Tool (RAT)**.
2. Configure a new connection using the MS Access driver (ODBC).
3. Select the database **Blood-Donation.accdb**.
4. In RAT, visualize the content of tables by typing their names in the relational algebra area.