

Objective of this phase is to apply what you have learned in class regarding relational algebra, SQL and constraints/assertions.

1. Write down your name, surname and ID at the top of your report.
2. Choose two tables (relations) from your project that are connected through a primary key and a foreign key, meaning that the primary key of one table should appear as a foreign key in the other table. Copy and paste the create table statements of those tables that you want to work on (from the PDF submitted in Phase I). If you cannot find such tables, then there may be a major problem with your design. Please use my office hours to resolve this issue.
3. Insert 10 rows to each table you have chosen using "insert into" statements. Data you insert does not need to be real, but it should be realistic, meaning that for example the name column should not have values like "X Æ A-12" unless you are Elon Musk. Also execute those insert statements in mysql to actually insert the data
4. Display all the rows of the two tables through executing "select * from <table_name> " commands on mysql and include the snapshot of the result in your report.
5. Write down a query in English which will require joining the two of the tables you have selected, then write down its relational algebra equivalent.
6. Write down the SQL version of the relational algebra query and execute the query in mysql. Include the snapshot of the result in your report.
7. Write down a query in English which will require "group by" operation, a statistical operator (SUM, AVG, MIN, MAX etc), and will also require joining the two tables. Then write down the SQL version, execute it on mysql and include the snapshot of the result in your report.
8. Add a "check" constraint to a table in your project by updating the create table statement Your constraint should involve a SQL query. Each student should write a different constraint. Adding a constraint to an existing table is done through the command "ALTER TABLE <table_name> ADD CONSTRAINT CHECK (condition)"
Execute the alter table command on mysql and try to insert a row which does not satisfy the constraint using insert into statement. Include the snapshot of your work in the report which shows that you have added the constraint and tried to insert a row violating that constraint.

Submit your work as a PDF on sucourse.

Each student should work on different tables. If the number of tables is not enough for that, then let's assume that we have two random students from the same group and let $S1$ and $S2$ represent the set of tables that the first and second student decided to work on, the constraint that needs to be satisfied is $|S1 \cap S2| < 2$

i.e., $|S1 \cap S2| < 2$ should hold on all groups except for groups with one student.

Let's assume A and B are two students from the same group who fail to satisfy the above constraint, then they will both have 0 from this phase of the project.

Each student should submit their work individually on sucourse as single PDF document.