

## Laboratory work 1

### Exercise 1

Figure 1 shows a schema of the relational database “**institute**” comprising three tables: **teachers**, **courses**, and “**students**”, along with two “many-to-many” relations: the first exists between “**teaches**” and “**courses**” tables, while the second one links the “**courses**” and “**students**” tables.

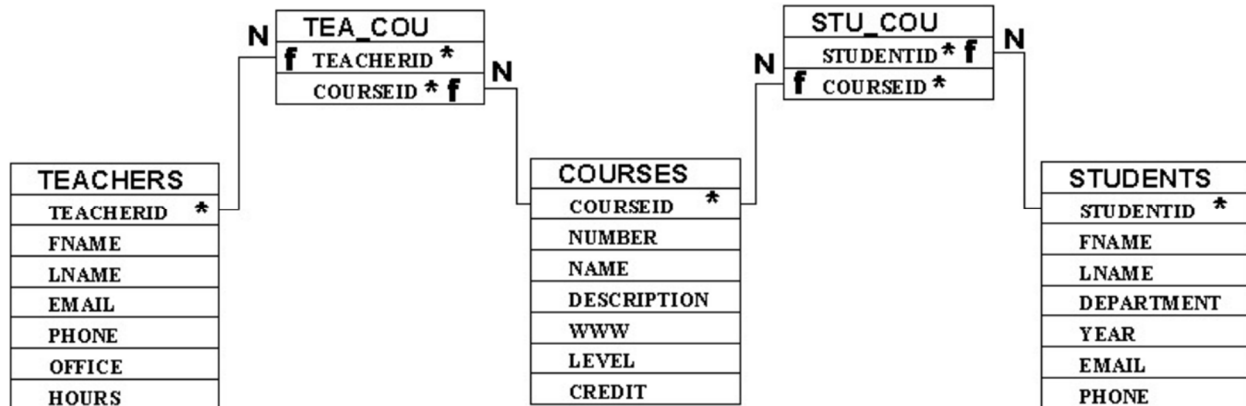


Figure 1. Institute database

1. Using SQL language, write the statements to:
  - a) Create the database “**institute**” of the schema presented in Figure 1.
  - b) Create all the tables that correspond to the tables and relations of the database “**institute**”.  
 Note that the type of all the following fields is “**number**”: *teacherid*, *courseid*, *studentid*, *credit*, and *year*. The remaining fields are of type “**varchar**”
  - c) Add primary key and foreign key constraints.
2. Run the following statement to insert new students.
  - a) insert into students (studentid, fname, lname, department, year, email, phone) values (912384234, 'Jacky', 'Smith', 'DUSP', 3, 'jacks@mit.edu', '1-617-234-5623');
  - b) insert into students (studentid, fname, lname, department, year, email) values (912384233, 'Jaecheol', 'kim', 'DUSP', 2, 'jaecheol@mit.edu');
3. Is there a difference between these two last statements?
4. Define the phone number of the student with ID 912384233 to 1-617-234-5238
5. Delete the student with ID 912384234