




# Practice – part 1: Simple SELECT



Given a designed database that contains the following tables. The description in detail is found in [Database description Final edudb v2.doc](#) file.

- student(**student id**, first\_name, last\_name, dob, gender, address, note, *clazz\_id*)
- subject(**subject id**, name, credit, percentage\_final\_exam)
- lecturer(**lecturer id**, first\_name, last\_name, dob, gender, address, email)
- teaching(**subject id, lecturer id**)
- clazz(**clazz id**, name, *lecturer\_id*, *monitor\_id*)
- enrollment(**student id, subject id, semester**, midterm\_score, final\_score)

**Bài làm của sv: Các lệnh cần được lưu trong 1 file cho mỗi sinh viên, tên file: tensv\_mssv-SQLPart1.sql. Ví dụ: oanhnt\_20202201\_SQLPart1.sql**

- Using SQL command to insert the records below into the tables

lecturer						
lecturer_id	first_name	last_name	dob	gender	address	email
02001	Việt Trung	Trần	6/2/1984	M	147 Linh Đàm, HN	trungtv@soict.hust.edu.vn
02002	Tuyết Trinh	Vũ	10/1/1975	F		trinhvt@soict.hust.edu.vn
02003	Linh	Trương	9/8/1976	F	Hà nội	
02004	Quang Khoát	Thân	10/8/1982	M	Hà nội	khoattq@soict.hust.edu.vn
02005	Oanh	Nguyễn	2/18/1978	F	HBT, HN	oanhnt@soict.hust.edu.vn
02006	Nhật Quang	Nguyễn	4/16/1976	M	HBT, HN	quangnn@gmail.com
02007	Hồng Phương	Nguyễn	3/12/1984	M	17A Tạ Quang Bửu, HBT, HN	phuongnh@gmail.com

student							
student_id	first_name	last_name	dob	gender	address	note	clazz_id
20160001	Ngọc An	Bùi	3/18/1987	M	15 Lương Định Của, Đ. Đa, HN		
20160002	Anh	Hoàng	5/20/1987	M	513 B8 KTX BKHN		20162101
20160003	Thu Hồng	Trần	6/6/1987	F	15 Trần Đại Nghĩa, HBT, Hà nội		20162101
20160004	Minh Anh	Nguyễn	5/20/1987	F	513 TT Phương Mai, Đ. Đa, HN		20162101
20170001	Nhật Ánh	Nguyễn	5/15/1988	F	214 B6 KTX BKHN		20172201

clazz			
clazz_id	name	lecturer_id	monitor_id
20162101	CNTT1.01-K61	02001	20160003
20162102	CNTT1.02-K61		
20172201	CNTT2.01-K62	02002	20170001
20172202	CNTT2.02-K62		



## Solution 1:

Create and import database: using EducationDB\_v2\_withoutCreateDB.sql

1) Option 1: Using pgadmin 4

- Connect to server
- Create a new database name: edudb
- Change connexion to edudb database
- Open Query Tool
- Open **EducationDB\_v2\_withoutCreateDB.sql** file and run

2) Option 2: Using psql

- Connect to database server with super user: `psql -h localhost postgres postgres`
- Create a new database name 'edudb' : `create database edudb;`
- Connect to the new database: `\c edudb`
- Run pre-defined commands (creating table, constraints and insert data) from sql file:  
`\i path_to_file_ EducationDB_v2_withoutCreateDB.sql`


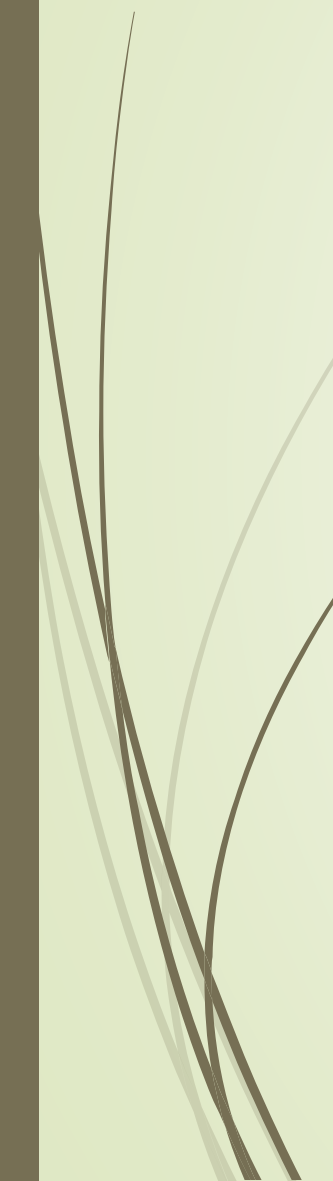


## Solution 2:

Create and import database: using **EducationDB\_v2\_withCreateDB.sql**

- Connect to database server with super user and execute commands from sql file:

```
psql -h localhost -f path_to_file_EducationDB_v2_withCreateDB.sql postgres  
postgres
```

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1. List of subjects having 5 or more credits.
  2. List of students in the class named "CNTT 2 K58".
  3. List of students in classes whose name contains "CNTT"
  4. Display a list of students who have enrolled in both "Lập trình Java" (Java Programming) and "Lập trình nhúng" (Embedded Programming).
  5. Display a list of students who have enrolled in "Lập trình Java" (Java Programming) or "Lập trình hướng đối tượng" (Object-oriented Programming).
  6. Display subjects that have never been registered by any students
  7. List of subjects (subject name and credit number corresponding) that student "Nguyễn Hoài An" have enrolled in the semester '20171'.
  8. Show the list of students who enrolled in 'Cơ sở dữ liệu' in semesters = '20172'). This list contains student id, student name, midterm score, final exam score and subject score. Subject score is calculated by the weighted average of midterm score and final exam score :  $\text{subject score} = \text{midterm score} * (1 - \text{percentage\_final\_exam}/100) + \text{final score} * \text{percentage\_final\_exam}/100$ .
  9. Display IDs of students who failed the subject with code 'IT1110' in semester '20171'. Note: a student failed a subject if his midterm score or his final exam score is below 3 ; or his subject score is below 4.
  10. List of all students with their class name, monitor name.