Lesson 18 – Hibernate - Test

Database Questions

We are developing an application to manage learning result of students. As a developer, we need to build the database first.

At beginning, we have **classes**, **students**, and **results** (score by subject) of students.

So, we should have following tables:

- **Class**: Holding information of a class: id, name and teacher name.

- **Student**: Storing information of a student: id, name, gender, and ID of class

- **Results**: Storing score of 3 subjects (Math, Literature, History) of student.

Student	
Column	**Type**
id	number
name	varchar
gender	varchar
class_id	number

Result	
Column	**Type**
student_id	number
subject	varchar
score	number

Class	
Column	**Type**
id	number
name	varchar
teacher	name

Data sample

Student			
id	**name**	**gender**	**class_id**
1	Dinh Thi Ngoc	Female	2
2	Nguyen Thanh Hung	Male	1
3	Tran Mai Hoa	Female	2
4	Doan Quang Vinh	Male	1
5	Cao Anh Dao	Female	3
6	Tran Kim Tuyen	Male	3

Result		
student_id	**subject**	**score**
1	Math	8
2	Literature	7
3	History	9.5
4	Math	6.8
5	Literature	4.9
6	History	8.2
7	Math	9.8
8	Literature	7.2
9	History	8.8

Class		
id	**name**	**teacher**
1	12A	Ho Cong Trung
2	12B	Dang Tu Anh
3	12C	Nguyen Van Tam

Questions

Answer 1 questions:

1. What is primary key of **Result** table.

Write 3 queries to:

2. List **name, gender** and **teacher name** of all **students**.

3. List **teacher name** and **number of all student** in class 12C.

4. List the **class name** and **number of the students** who have good at **Math** (score>=8) and good at **Literature** (score>=8).

JPA/Hibernate Questions

Using DDL, DML design database and insert test data for tables then handle questions below using JPA/Hibernate in Eclipse project

1. List all student by class id
2. List the class name and number of students, name of students who have Math point >= 8 and Literature >= 8
3. Count/Statistic amount of students per class
4. Find students who have average of points >= 8.2
5. Find/statistic students who have max average of point in their class

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How to submit contests

Step 1 → Create **lesson18-hoten.sql** in sql workbench, using DDL, DML to design database and handle **Database Questions**

Step 2 → Create project **lesson18-hoten** in Eclipse then start exam there

Step 3 → Copy **lesson18-hoten.sql** and paste to **lesson18-hoten** folder → push to lesson18-exam

Step 4 → Execute **JPA/Hibernate Questions**

Submit branch: lesson18-exam