

## Requirement

Use Java 21 for this project. Download **Table.java**, **KeyType.java**, **MovieDB.java**, and **MovieDB2.java**. In **Table.java**, comment out **LinHashMap** and **BpTreeMap** (they are used for Project 2). Finish the implementation the 5 RA Operators that are partially implemented in **Table.java**. Store tuples in an **ArrayList**. Use **MapType.NO\_MAP** for the index type (no indexing for Project 1).

## Submission instruction

Create a subdirectory called **store** containing the data file for the relations. Also, create the **report.txt** containing the name of all members of the team and stating what each programmer did and how well they did it. Put **report.txt**, **store**, and all four **.java** files in a directory **Project1\_LastNameofTheManager** and zip this directory and submit the **.zip** file on ELC. Only one submission should be made by each group.

## Grading

- Efficient implementation of Select Operator. Correct retrieval of tuples satisfying a given condition. (15 points)
- Efficient implementation of Project Operator. Correct projection onto a given list of attributes. (15 points)
- Efficient implementation of Union Operator. Correct set union of two tables. (15 points)
- Efficient implementation of Minus Operator. Correct removal of tuples from this table that are in table2. (15 points)
- Efficient implementation of Join Operator. Join this table and table2 by performing an "equi-join". (15 points)
- Creation of **report.txt** and balanced programming effort. (15 points)
- Correct data in **store** subdirectory. (5 points)
- All classes and methods must be fully documented and set up for Javadoc. (5 points)

## Late submission

- 10 points will be deducted per day late.