

# T-202-GAG1: Assignment 10

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## Readings and Lectures

Ramakrishnan & Gehrke: Chapter 19.

Lectures: V09A and V10A.

## Preparation

Download the Description and SQL code for “Project 5” from 2014” from under “Other Material” on MySchool. Create a database called OldP5 and create and fill the relations using the downloaded SQL scripts. You may also look at the solution to the project, which under “Other Material” as well.

## The Assignment

Your goal is to re-create with your own code, the SQL code of the solution (CHECK.sql and CHECKMVD.sql). To this end, do the following:

1. Create a program (in a programming language of your choice) to generate your own SQL script, along the lines presented in the V10A lecture, to detect functional dependencies in the OldP5 database.
2. Create a program to generate your own SQL script, also along the lines presented in the V10A lecture, to detect multi-valued dependencies in the OldP5 database. Note that this can only occur in one of the relations.

You should use a programming language of your own choice. And of course you can verify your code and SQL queries using the solution to the project!

## Deliverables

*For this assignment, you can therefore work in groups of two or three, and working with your group for Project 5 is recommended.*

Submit up to four files. All files should have a .txt ending and have a descriptive name.

1. Your code to generate SQL queries for functional dependences.
2. The generated SQL queries to detect functional dependences.
3. Your code to generate SQL queries to detect multi-valued dependencies.
4. The generated SQL queries to detect multi-valued dependencies.

## Additional Exercises

*Exercises: 19.1, 19.5, 19.13, as well as exercises from old exams.*

***Note: It is very important that you get much practice with normalization, so I encourage you to take the time for these exercises.***