Loyola University Chicago
Department of Computer Science
COMP 353/453: Database Programming (Fall 2022)

Prof: Yas Silva

Homework # 1: PostgreSQL– SQL

Due **Thursday, October 13th**, 2022, 11:59PM.
This assignment will be completed in teams of **two** students.

Using the Music Agency Enterprise:

1. Create the DDL for the Music Database using the **music1.txt** file and run the DDL in PostgreSQL. This file is available together with this PDF file in Sakai
2. Develop SQL solutions for the six queries specified in this assignment. **Comment the queries and use descriptive attribute names.**

On the due date, you will turn in the following:

1. Submit in Sakai a single zip file containing:
   a. The assignment report (.PDF) including:
      - The names of all the students and their individual contributions to this assignment (place this information at the top of the file)
      - The SQL queries and, after each query, the printout of result data taken from PGAdmin
   b. A text file (.txt) containing the five SQL queries
2. A printed copy of the report should be given to Prof. Silva

Music Agency Relational Database Schema

recordingLabel(labelID, labelName, location)

cd(cdCode, cdTitle, numberSold, year, labelID, groupCode)

song(songCode, songTitle)

musicalGroup(groupCode, groupName)

artist(artistID, firstName, lastName, yearBorn)

topCDs(cdCode, year, rating)

composedOf (cdCode, songCode, trackNumber)

topSongs(songCode, year, rating)

member(groupCode, artistID, fromDate, toDate)

writtenBy(songCode, artistID)

Queries

The output schema for the query is given in parentheses following the query specification.

1. Which songs appeared on the CD rated number one in 2003?
   Order the results in ascending order on track number.
   (songCode, songTitle, trackNumber)
2. For each group in the database, find the number of CDs rated in the top 10.
   Order the results in descending order of the number of top 10 CDs.
   (groupCode, groupName, numberOfTop10CDs)
3. What is the maximum, the minimum, and average number of tracks on CDs published since the year 2000? Order the results in chronological order by year.
   (year, maxNumber, minNumber, avgNumber)
4. Find the total number of CDs sold by a group with a recording label.
   Order the results in descending order by the total number of CDs sold.
   (groupCode, groupName, labelID, labelName, totalNumberSold)
5. Which artists that have written a top 5 song are currently not members of any group?
   Order the results alphabetically by last name and first name.
   (artistID, firstName, lastName, yearBorn)
6. Find the names of musical groups that have recorded CDs with every recording label located in Detroit. Order the results alphabetically by the name of the group.
   (groupCode, groupName)