

# Bonus assignment 8: Music database and console queries

Course ‘Imperative Programming’ (IPC031)

## 1 Assignment

Design and implement a console I/O application that allows the user to enter the following commands:

Command	Description
<code>track_track</code>	Find every track of which the track title matches track (use function <code>match_tracks</code> with <code>display</code> parameter set to <code>true</code> ). At the end, show the number of found tracks.
<code>artist_artist</code>	Find every artist whose name matches artist (use function <code>match_artists</code> with <code>display</code> parameter set to <code>true</code> ). At the end, show the number of found artists.
<code>cds_artist</code>	Find every CD title of which the artist’s name matches artist (use the function <code>match_cds</code> with <code>display</code> parameter set to <code>true</code> ). At the end, show the number of found CD titles.
<code>#cds</code>	Display the total number of CDs (use function <code>number_of_cds</code> ).
<code>stop</code>	Terminate the program

The following commands are optional to implement:

Command	Description
<code>cd?_track</code>	Find every CD that has a track with a title that matches track. Display the artist name, CD title, and year of recording. Each CD title is displayed at most once. At the end, show the number of CDs found.
<code>artist?_cd</code>	Find the artists that have produced a CD that has a title that matches cd. Display the artist and CD title. At the end, show the number of found matches.
<code>runningtime_cd</code>	Of each CD that has a title that matches cd, determine the total running time of all tracks of that CD. Display the artist, CD title, and total running time of all tracks of that CD. The total running time must be displayed in mm:ss format. At the end, show the number of found matches.
<code>time</code>	Display the total running time of all tracks in terms of number of weeks, remaining number of days, remaining number of hours, remaining time in mm:ss format.
<code>year_y</code>	Find all CDs that appeared in year y. For each found CD, display the artist and CD title. At the end, show the number of CDs found.

On Brightspace, the .zip file contains for each of the above queries the output of an example query. You can use this to test your implementation.

## 2 Products

As product-to-deliver you only need to upload to Brightspace “`main.cpp`” that you have created with your solution regarding the bonus assignment.

## Deadline

**Bonus assignment:** Monday November 13, 2023, 15:30h