# Database Connection

A Database is a structured set of data held in a computer, especially one that is accessible in various ways. In our case the data in our database is the filepaths where the midi files are located.

## 3rd Normal form

3NF states that all column reference in referenced data that are not dependent on the primary key should be removed. Another way of putting this is that only foreign key columns should be used to reference another table, and no other columns from the parent table should exist in the referenced table.

## What is a midi file?

MIDI stands for **Musical Instrument Digital Interface**. The MID files are used by a variety of music authoring programs and MIDI hardware devices. MID files contain a variety of music data and information including details on which notes should be played and when and how loud and long each note should be

There are three tables by the following names; tblCSV, tblGenre and mood. the tblCSV table is basically our base table which contains our foreign keys which are the ones that link our tables. In each and every table we have primary keys which we use in our base table to reference it and after that we then get our foreign keys that will enable the use of relationships amongst the tables.

You need to connect to your phpmyadmin by specifying the host, username and password so that it knows how to access the database. We then execute our select statement which specifies which table you are reading from and you are also allowed to select the columns but in our case we are trying to retrieve all the data from the table.

We get the number of rows that the entire base table consists of all the related data. so if you wanted to get only one row from out table then we would use the fetchOne() method which retrieves the data contained in a row, but in our case we will be using fetchall() method because we want to retrieve all the rows and choose a specific criteria chosen by the user of the application.

When it retrieves all the data, it goes row by row. Based on the retrieved data, it will train using the midi files we have in a given criteria and then come up with one sound which has all the elements specified by the user.

We print the data using the print method and you close your connection to the database