Assignment 1 – Database Creation

Submission

Your submission should include three items:

- A .SQL file which shows your CREATE DATABASE and CREATE TABLE commands including your INSERT commands for the data you are ingesting into the tables – and – the setting up of the history table capabilities (see Task 4).
- An output file which shows the output of a SELECT * from each table. The equivalent of a DESCRIBE TABLE for each table.
- A copy of your JSON files (see Task 3).

Reminders

This will form the basis of future assignments. We will continue to grow and enhance this database. Make sure you do a complete job of these four tasks to help ensure a smooth process for future assignments.

Tasks

1 – (25%) - Create a database called *music*. Create a table called *bandinfo* with the following columns. Make sure to choose optimal data type for each. Insert 20 records into the table. *Pick your favourite bands and favourite genre of music.*

- Band Name
- Formation Year
- Current Status (Active or Inactive)
- Base City
- Base Country

- Number of Band Members
- Number of Releases
- Genre

2 – (25%) – Create a second table called *bandrecognition* with the following columns. Make sure to choose optimal data type for each. Insert 20 rows. Make sure band names in this table have a corresponding band name in the *bandinfo* table.

- Band Name
- Award
- Nomination ("N" for nominated; "A" for awarded)
- Year

3 – (25%) – Alter the *bandinfo* table. Add a column called *releases.* This column will contain a JSON document containing with the list of releases, type of release, release year and release title. See JSON example provided. Choose a number of bands (a minimum of 5) and create a JSON document to list releases.

4 – (25%) – Create a fourth table called *bandmembers* with the following columns:

- Band Name
- Last Name
- First Name
- Role
- Start Year
- End Year

Select a set of bands (a minimum of 5) and add the band members to this table.

For this table we need to set up automatic history – sometimes called history tables. The purpose of history tables is to keep track of changes made to the table so you can run – what is called – an "AS OF" query. Read about this. You'll understand why we want to use this capability for this table given band members can change quite a bit for bands.

If you are using Db2 – this is what you want:

https://www.ibm.com/docs/en/db2-warehouse?topic=tables-application-period-temporal

If you are using Oracle – this is what you want:

https://docs.oracle.com/database/121/VLDBG/GUID-AF78C832-516A-4686-9DDF-CE12597F7723.htm#VLDBG14127

If you are using Microsoft SQLServer – this is what you want:

https://learn.microsoft.com/en-us/sql/relational-databases/tables/temporal-tables?view=sql-server-ver16