DATABASE SYSTEMS ISYS2014/ISYS5008

USER GUIDE TO IMPLEMENT & USE OLYMPIC GAME DATABASE

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1. Introduction

The Olympic Games 2024 database system can be created, implemented, and used with the help of this user guide, which offers detailed instructions. Creating tables, loading data from CSV files, executing SQL queries (include basic, join, subqueries, advance feature like stored procedure and view) and connecting the database to Python for dynamic access are all covered in the guide. It seeks to guarantee that a different user can copy the database system, run queries, and link it to Python for additional tasks.

2. System requirements

2.1 MySQL Version : mysql Ver 8.0.39-0ubuntu0.22.04.1 for Linux on x86_64 ((Ubuntu))
2.2 Operating System: Ubuntu (via VMware Horizon Client)
2.3 Command Line Access :MySQL Command Line Client or any SQL editor
2.4 Files that we need :

- **SQL FILE**

  - **CreateTable.sql :** This file contains details of creating 7 tables for Olympic game database along with primary key, foreign key and constraints.

  - **LoadData.sql :** This file contains scripts of loading data into table from CSV file
  - **Query.sql :** this file contains simple queries, join queries, subqueries based on Olympic game 2024
  - **advanceQuery.sql** : this file contains advanced queries like procedure, views to get an idea of how to use these based on Olympic games
  - **DeleteTable.sql** : this table contains all table name, procedure name, view to drop at once for efficient use.

- **CSV files**:
  - **athelete**.csv --- contains information about athlete .
  - **coch**.csv ------ contains information about coach
  - **team**.csv ---- contains information about team discipline of Olympic game 2024
  - **events**.csv ----contains information about events of Olympic game
  - **schedule**.csv --- contains details about event schedule of Olympic game events.
  - **Medallist**.csv --- contains information about medalist details
  - **Medal_total**.csv --- contains information about total medals details.

- **PYTHON FILE**
  - **python3 pythonConnect.py --** this file contains scripts of connecting SQL server to python
  - **python3 eventdata.py --** contains scripts of using pythons to retrieve all rows of all EVENT table and display using fetch one() command
  - **python3 scheduleData.py** -- this python file retrieve the data of SCEHEDULE table such as end_date, start_date, vanue_code using where conditon status is CANCELLED

3. Instructions step by step for using Olympic game database

3.1 Access Vmware Horizon Client machine

1. Inserting <student ID> and <student password > need to access the virtual machine.

3.2 Creating the database:

1. After getting access to VMware Horizon Client machine need to open SQL command line client
2. Checking the MYSQL version by typing this command **mysql -V**
3. Log in to MYSQL Server **mysql --local-infile=1 -u dsuser -p**

I am getting Errors while loading data that's why using this instead of **mysql -u dsuser-p**

4. **Enter MYSQL password: userCreateSQL**
5. **To see database show databases;**
6. **Creating a new database for Olympic game 2024**
   CREATE DATABASE IF NOT EXISTS Olympic_Game_2024_22663281;
7. **Select the created database: use Olympic_Game_2024_22663281**

3.3 Creating TABLES

To create tables for the Olympic game 20224, need to execute the **Createtable.sql** which contains 7 table details to create. By running the following command on a SQL.

\. CreateTable.sql

This will create

ATHELTE TABLE, COACH TABLE, TEAM TABLE, EVENT TABLE,

SCHEDULE TABLE , MEDALLIST TABLE, TOTAL_MEDAL TABLE

3.4 LOADING DATA

Once tables are created, need to load data from the given CSV file based on the Tables. do this, run the command on the command prompt.

\. LoadData.sql

By doing this will load data from CSV file to respective table.

4. Running Queries

4.1 Running simple and join Queries

The file **Query.sql** contains all the join queries, subqueries, simple queries related to Olympic games . There are mostly 20 queries using aggregation function, DATE format, SELECT statement, where condition, AS keyword, LIKE keyword and so on to make the queries meaningful based on Olympic games. Run the file use this command

\. Query.sql

This command will display all the result and create an output file named

SimpleQueryAnswerOlympic.out which capture all output in a file format

4.2 Running Advance queries

The **advanceQuery.sql contains** advance queries like store procedure, views related to the Olympics game 2024. To execute this file, need to source it first by typing this

\. advanceQuery.sql

This command will display all the result and also create an output file named

advanceQueryAnswerOlympic.out which capture all output in an out file format

5. Deleting all tables, procedure, views at once:

In order to delete everything, if any errors occurs, by sourcing the file **DeleteTable.sql** . This will be efferent to delete every table, PROCEDURE, and VIEWS at same time by only running this command

\. DeleteTable.sql

6. Python Database Connectivity

This section shows how one can be connected to python program from MYSQL server by following these steps below:

6.1 Exit MYSQL server

Exit the MYSQL prompt and in the command prompt type this **mysql -V**

6.2 Installing some python packages

Now, Need to install some packages for python to connect. By typing this command in command prompt python packages will be installed .

pip3 install mysql-connector-python

6.3 pythonConnect.py

After installing the packages, now we need to run the python file named **pythonConnect.py** having information of connecting MYSQL DATABASE to python.

This file contains scripts like user password, ask user to input the username, user password and other coding also to be connected on the python, by typing
python3 pythonConneect.py

After running this file, it will ask user to input the username and password.

Here username will be **dsuser**
& password will be this **userCreateSQL**

After connecting to the SQL Server to python it will print connection is successful message.

6.4 eventdata.py

The file named **eventdata.py** contains information of retrieving all rows of all EVENT table and display using fetchone() command.

Run the file by typing **python3 eventdata.py** to get the result .

6.5 scheduleData.py

The file named **scheduleData.py** is a python file to retrieving the data of SCEHEDULE table such as end_date, start_date, vanue_code using where conditon status = CANCELLED.
Run this file by typing **python3 scheduleData.py,** first it will connected the MYSQL server to python and then do coding part.