Rudimentary Database Engine

(DavisBase: Rio de Janeiro)

(1) Environment

- Create a virtual environment with Python 3.9.7+ within a clone of this repo

```
git clone https://github.com/0xrutvij/rioDatabaseEngine.git

cd rioDatabaseEngine

# if using virtualenv
virtualenv venv

# else
python3 -m venv venv

# then source it (*nix OSes)
source venv/bin/activate

# install all dependencies
pip install -r requirements.txt
```

(2) Launching the Application

- Launching the SQL REPL

```
python3 src/main_loop.py
```

  The output will be something like this!

```
----------------------------------------
Welcome to RioDBLite
RioDBLite Version 0.1
©2021 Rio DB Group

Type "help;" to display supported commands.
----------------------------------------



riodb>
```

(3) How to Start

- run init db command only the first to initialize the database and create database files, it will create a file named rio.db in the current directory, and supports one database instance per directory.

- Look at the commands supported and sample commands for next steps.

```
riodb> init db;
```

- Subsequent launches should read all tables present in the `rio.db` file.
- The immediately previous version is backed up at all times to `rio.db.bkp`, to restore from backup, rename the bkp file to `rio.db` before next launch and remove any other files of the same name.

(4) Commands Supported (w/ Sample Commands)

- clear: Clear previous input data `clear;`
- create: create a new table in the database

```
CREATE TABLE DOGS
(
    TagID int PRIMARY KEY,
    Name text, Weight float,
    Age int
);
```

- insert: Insert data into a particular table

```
INSERT INTO TABLE
(TagID, Name, Weight, Age)
DOGS
VALUES (933, "Rover", 20.6, 4);
```

- select: Query data from the database

```
SELECT * FROM DOGS;
```

- update: Update data in the tables

```
UPDATE DOGS SET Age=8 WHERE Name="Rover";
```

- delete: Delete data from a table

```
DELETE FROM TABLE DOGS WHERE Name="Rover";
```

- drop: Delete table from database

```
DROP TABLE dogs;
```

- exit: Exit davisbase RioDB `exit;`