Worksheet # 1 – Week 3
Date: 11 March 2024
CITS1402 Semester 1

Open sqlite

- Open the command prompt and write sqlite3 and then press the enter key. For some people only writing sqlite will also work.

Dot commands are very useful commands in sqlite. For instance,

.help
.database
.tables
.open
.save
.quit

Practice each of these commands to find out what they do.

Time to create a new database

.open test.db

This command will create a new database for you. You can call it anything, here I am calling it "test". Here .db indicates the extension of the database file.

Now check whether you are working in the right database, by using the command *.databases*:

You should get a path to the database with r/w written in front of it. Please note the path for you will be different than what I am getting on my computer.

```
SQLite version 3.39.5 2022-10-14 20:58:05
Enter ".help" for usage hints.
Connected to a transient in-memory database.
Use ".open FILENAME" to reopen on a persistent database.
sqlite> .open test.db
sqlite> .databases
main: /Users/nasi0029/Downloads/Slides/sql/test.db r/w
sqlite>
```

The database that you have just created is empty. However, you can still check whether it has any tables or not, by giving a *.tables* command

```
sqlite> .tables
sqlite>
```

Now that you have a database, it is time to create some tables. To create some tables, we need to have a business case. Based on the following fictitious scenario, we are going to create just ONE table.

Scenario

Please note, that the fictitious scenario is only for learning purposes. It may not be complete, but it will be enough to create and manipulate data in SQL.

> The local council in your suburb maintains a basic record of all the properties. This includes information about the owner, including first name, last name, property's address, driver's licence number of the owner, whether the house is owner occupied or rented; if it is rented, what is the rent. An owner can only own one property in this suburb.
>
> Create a table that could store the above information

You need to ensure:

- All properties are uniquely identified
- For owner-occupied properties, it should be possible to have the rent field empty
- An owner can only own one property in this suburb.

Hints

- There is a primary key
- Rent can be null
- Driver's licence number is unique

Use the .schema command to see the code for the table.

Make sure the headers are appearing via the following command: .headers ON

Inserting data:

Try to enter the following data in your database. Code for the first row has already been provided.

```
propertyNo|firstName|lastName|address|driverLicence|isOwnerOccupied|Rent
1|John|Doe|123 Main St|X1234567|1|
2|Jane|Smith|456 Elm St|A1234568|0|1200
3|Alice|Johnson|789 Oak St|B1234569|1|
4|Bob|Brown|321 Pine St|C1234570|0|1500
5|Carol|Davis|654 Maple St|D1234571|1|
sqlite>
```

```
INSERT INTO Properties (

propertyNo, firstName, lastName, address, driverLicence, IsOwnerOccupied, Rent)
```

```
VALUES (
1, 'John', 'Doe', '123 Main St', 'X1234567', 1, NULL);
```

Retrieving Data

1. Find all the properties where rent is greater than 500
2. Find all properties where rent is NULL
3. Display the owner's last name for all the owner-occupied properties
4. Display the owner's first name for all the rented properties
5. Display the address of all the properties
6. Find the propertyNo and address of properties where rent is less than 1400

Save the database