(SPAD) Sequel Personal Address Database

CSCI Master's Project

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1. Introduction

1.1 Description

SPAD is an integrated environment for creating personal databases. The menu system is designed for a person with significant knowledge, but easy to use. IT was designed with TKinter, a GUI interface system as well as SQLite to handle queries.

1.2 Step-by-step Instructions:

The following is an introduction and presentation of the steps involved in creating and using your address book. The manual is to be used in conjunction with the application.

1. To begin, access the **Create New Database** menu and click to make a new database. There will be a checkmark to indicate that it exists. You can find it in File Explorer in the application's folder, for instance "database1.db".
2. The next step is to choose the current working database. This is done by accessing the **Choose Current Database** menu. Click the button to continue. There will be an indicator on the main menu that shows the current database; also,
3. when returning to the **Choose Current Database** menu there will be a checkmark as an indicator.

The main features are record management and retrieval, as well as contact management capabilities. There is an easy help system built in, the "?" buttons on the bottom right of each window. ESC closes the current window and TAB tabs through the available fields.

When everything is set up, add data by the **Add Record(s)** menu.

2. Main Menu

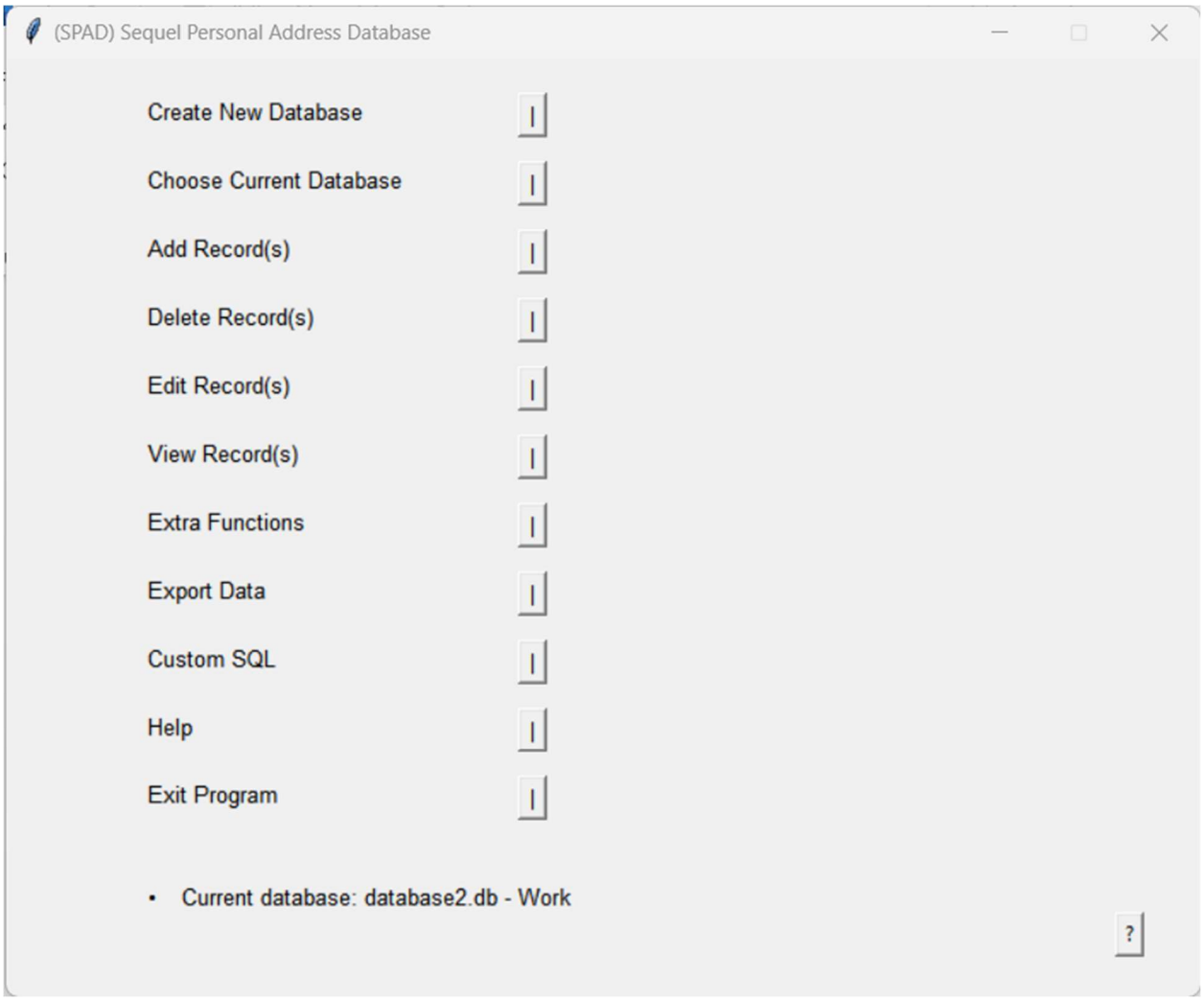

Figure 1: Main Menu

2.1 Figure 1 description:

This is what you see at first. See below for details. Choose **Export Data** to save a current database as a csv file, for example "database2.csv". If a database is not selected, there will be a notice to select current database. **Exit Program** will terminate the program. As you can see the current database is "database2.db" or "Work". **Help** is a function for an overview of the system. ? button gives help in context.

2.2 Step-by-step Instructions:

1. Click on function detailed above to proceed.
2. Click on appropriate function detailed below.

3. Create New Database

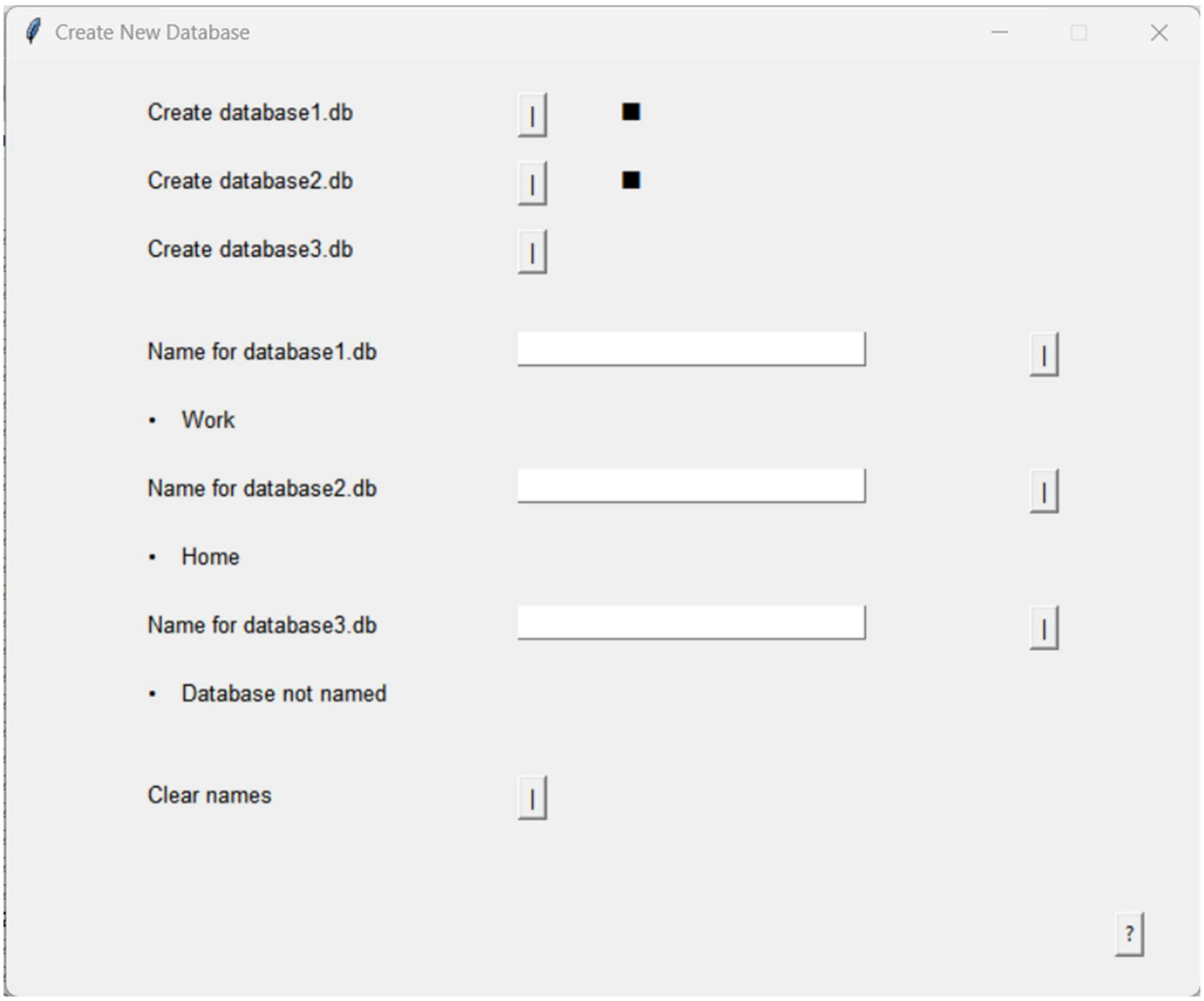

Figure 2: Create New Database

3.1 Figure 2 description:

Create database1.db to creates the specific database. The squares indicate that the certain database files exist. Enter your specific names in the fields to identify your databases. **Clear names** removes the names from the databases so that you can rename them if required. To proceed, make sure a database has been created. The current names are indicated. After naming a database, be sure to choose it to set it as current.

To delete a database file, use File Explorer, as deleting through the application would be too easy and dangerous; this feature is not available.

3.2 Step-by-step Instructions:

1. Click on Create database1.db to create the specific database.
2. Enter your specific names in the fields to identify your databases.

3.3 Example:

Name for database1.db: Work

4. Choose Current Database

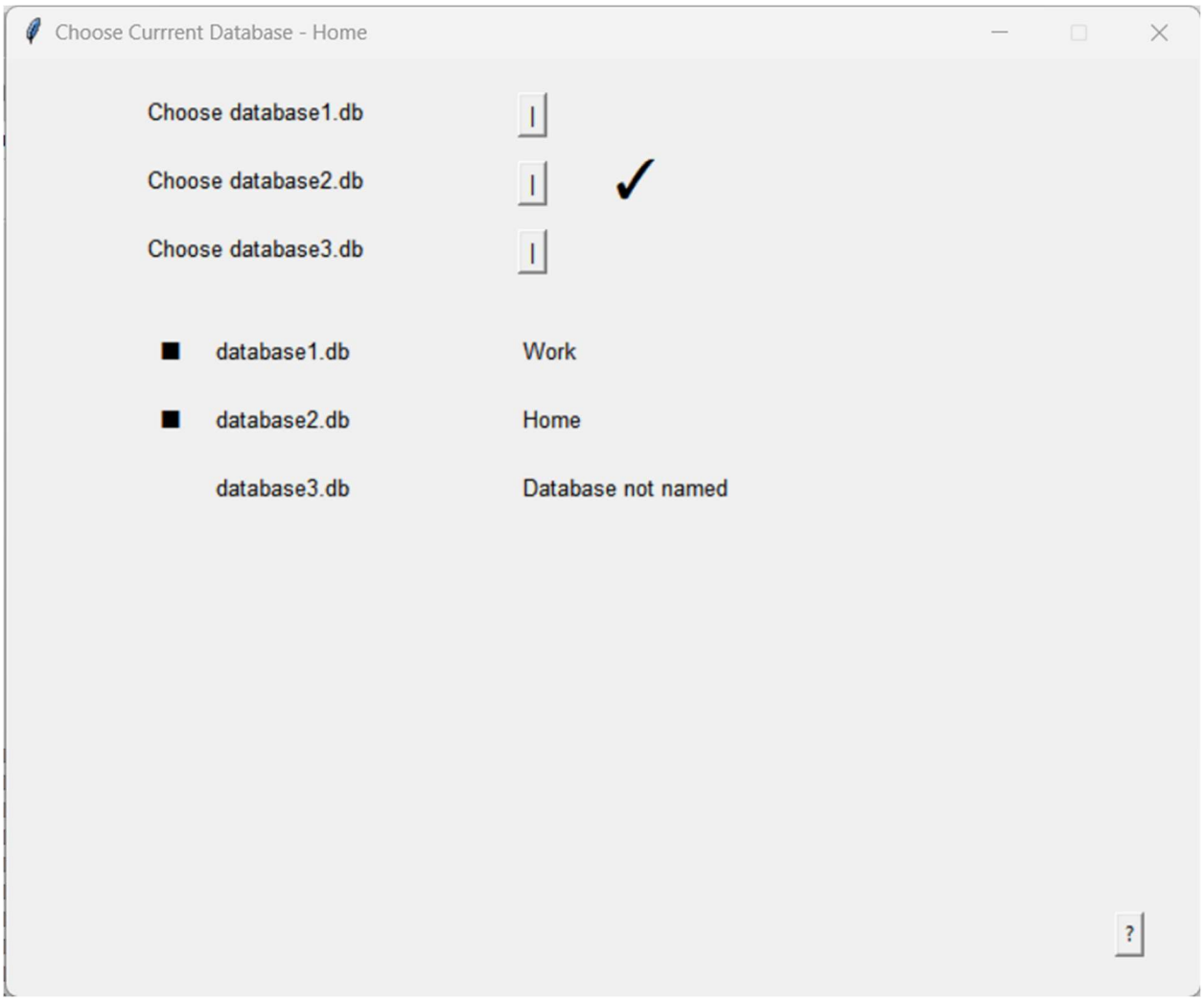

Figure 3: Choose Current Database

4.1 Figure 3 description:

The functions are to specify the database file to make it the current. To proceed, make sure a database has been designated as current. Here, the names of the databases are displayed. After naming a database, click on button to set the name as current. The checkmark indicates which database has previously been selected. If there is not an existing database that corresponds to that choice, there will be a notification. The squares indicate that the certain database files exist.

4.2 Step-by-step Instructions:

1. Click on the specific database file to make it the current.

5. Add Records to Database

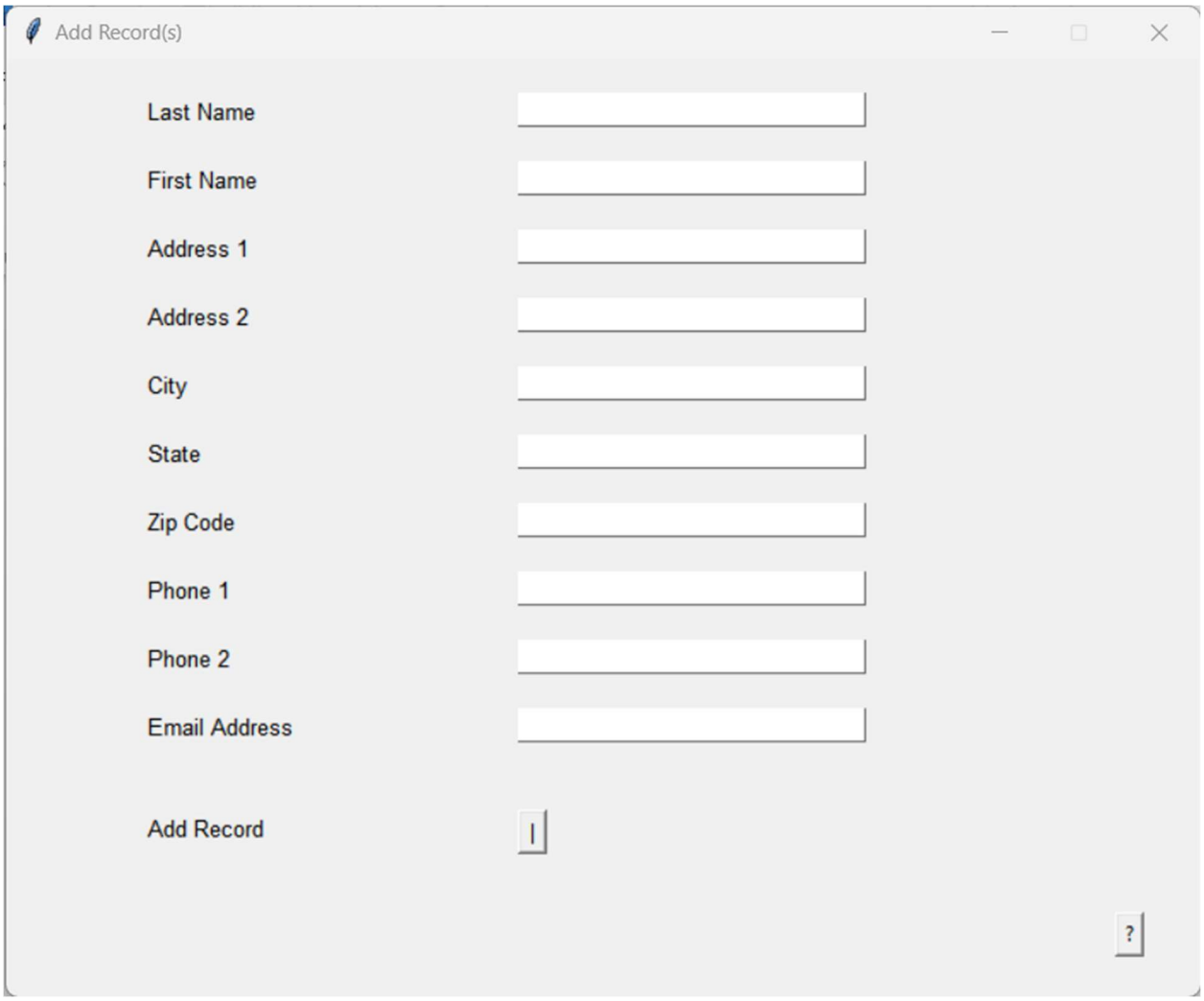

Figure 4: Add Records to Database

5.1 Figure 4 description:

Each relevant field should be populated.

5.2 Step-by-step Instructions:

1. Enter data in each relevant field and click **Add Record** to add the record to the database.

5.3 Example:

Last Name: Hiers

6. Delete Records from Database

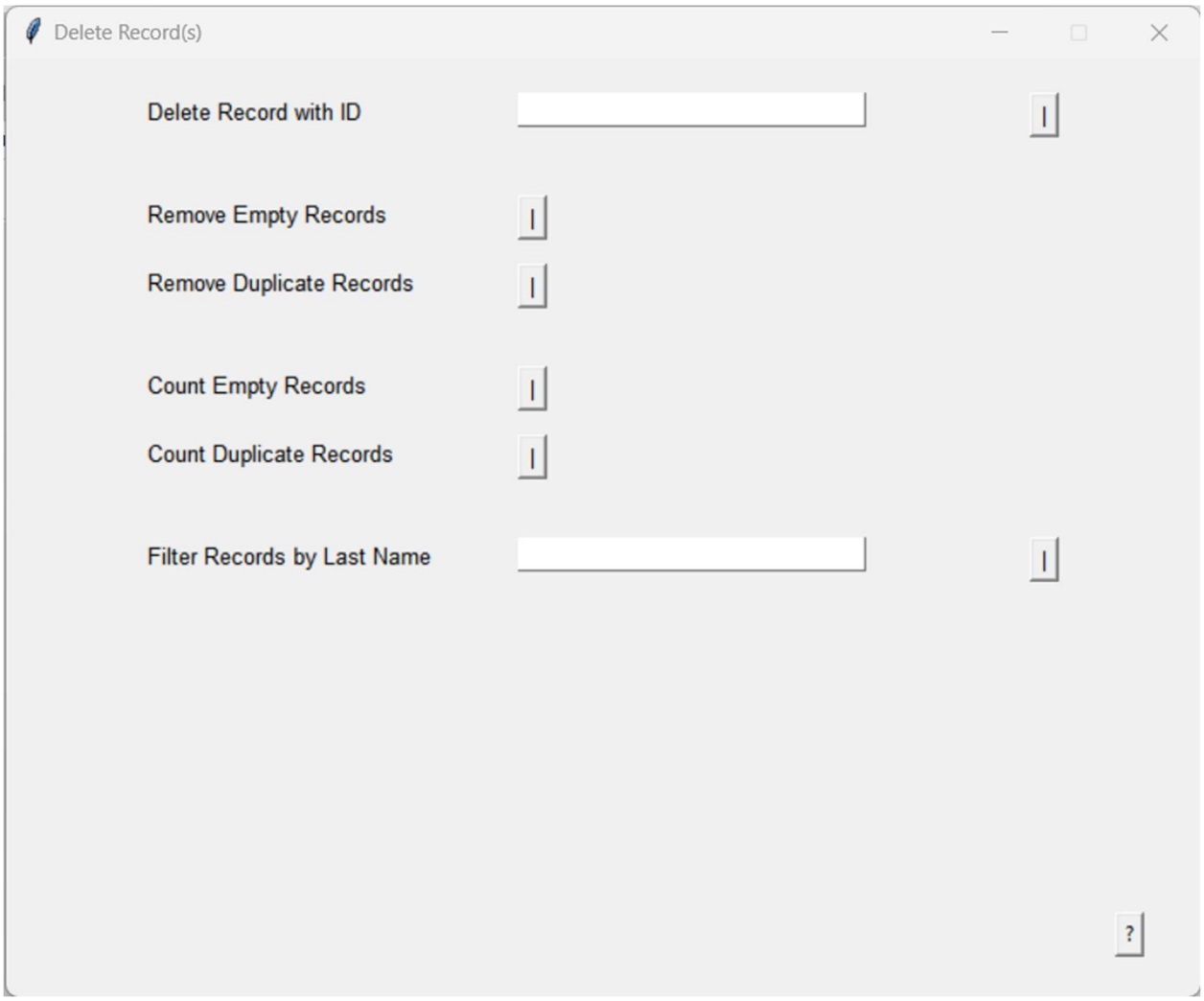

Figure 5: Delete Records from Database

6.1 Figure 5 description:

The ID is for the current deletion. **Remove Empty Records** deletes all the empty records from the current database. **Remove Duplicate Records** deletes the duplicates while leaving one. **Count Empty Records** is the count of empty records in the current database. **Count Duplicate Records** is the count of duplicate records in the current database. **Filter Records by Last Name** shows all duplicates of last name.

6.2 Step-by-step Instructions:

1. Enter ID for record to delete.
2. Select Function.

6.3 Example:

Delete Record with ID: 3

Filter Records by Last Name: Hiers

7. Edit Existing Records

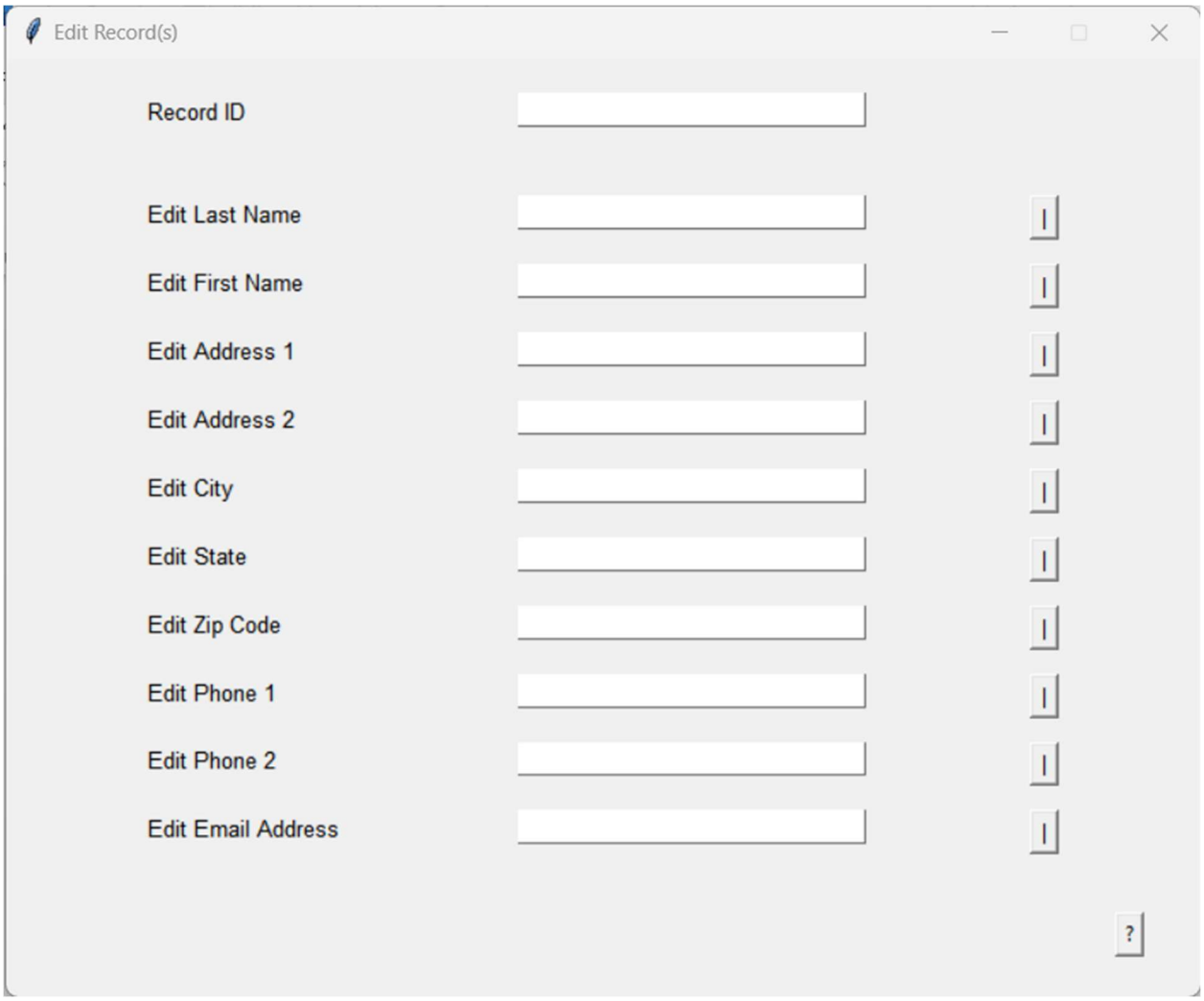

Figure 6: Edit Existing Records

7.1 Figure 6 description:

The ID of the record is for current editing.

7.2 Step-by-step Instructions:

1. Enter all relevant values and click on the relevant buttons to replace the current values with the desired values.

7.3 Example:

Record ID: 3
Edit Last Name: Hiers

8. View Existing Records

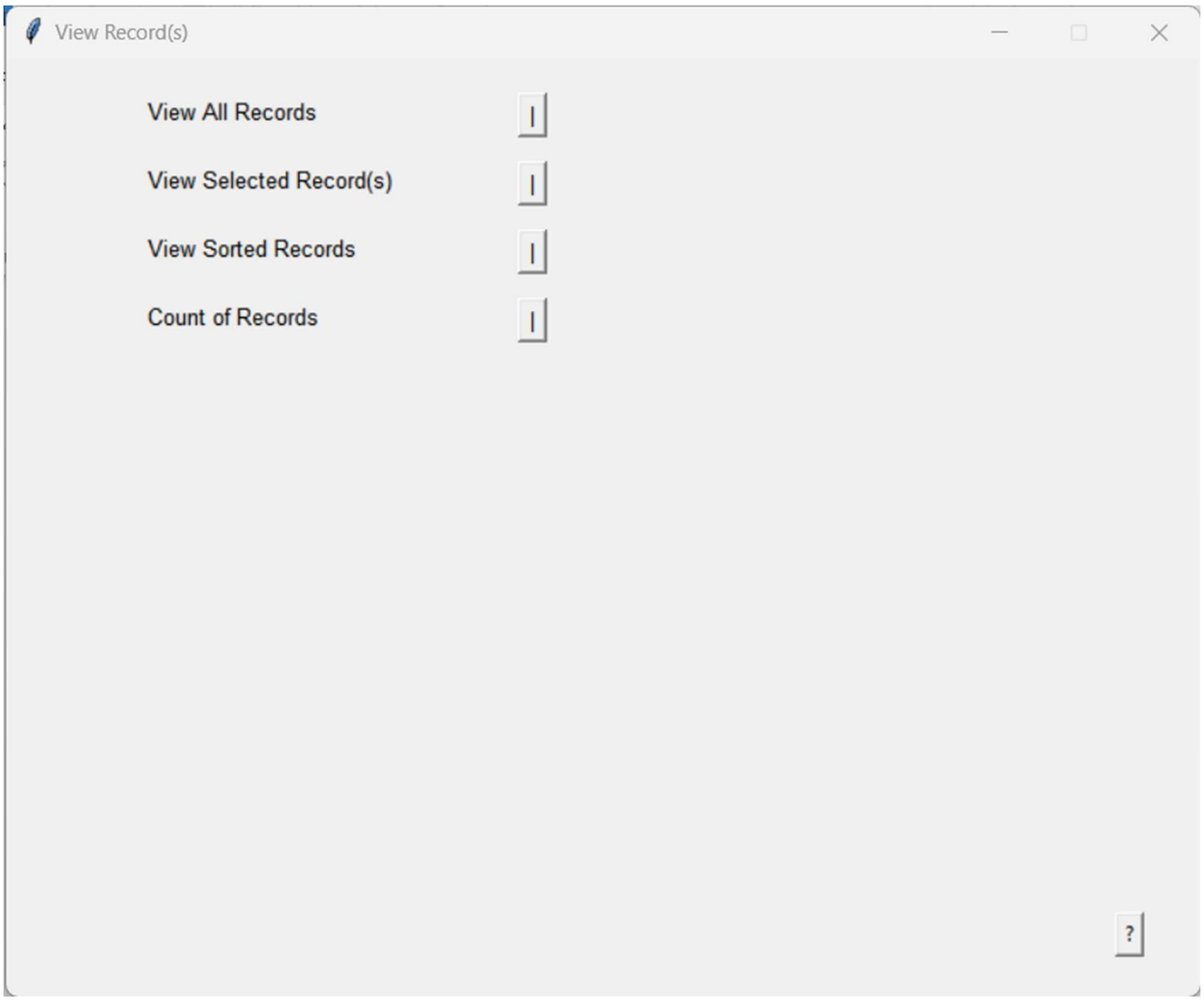

Figure 7: View Existing Records

8.1 Figure 7 description:

View All Records displays all the records in unordered status, by ID. **View Selected Record(s)** is explained below. **View Sorted Record(s)** is explained below. **Count of Records** displays the number of records in the current database.

8.2 Step-by-step Instructions:

1. Choose relevant function to proceed.

9. Filter Records

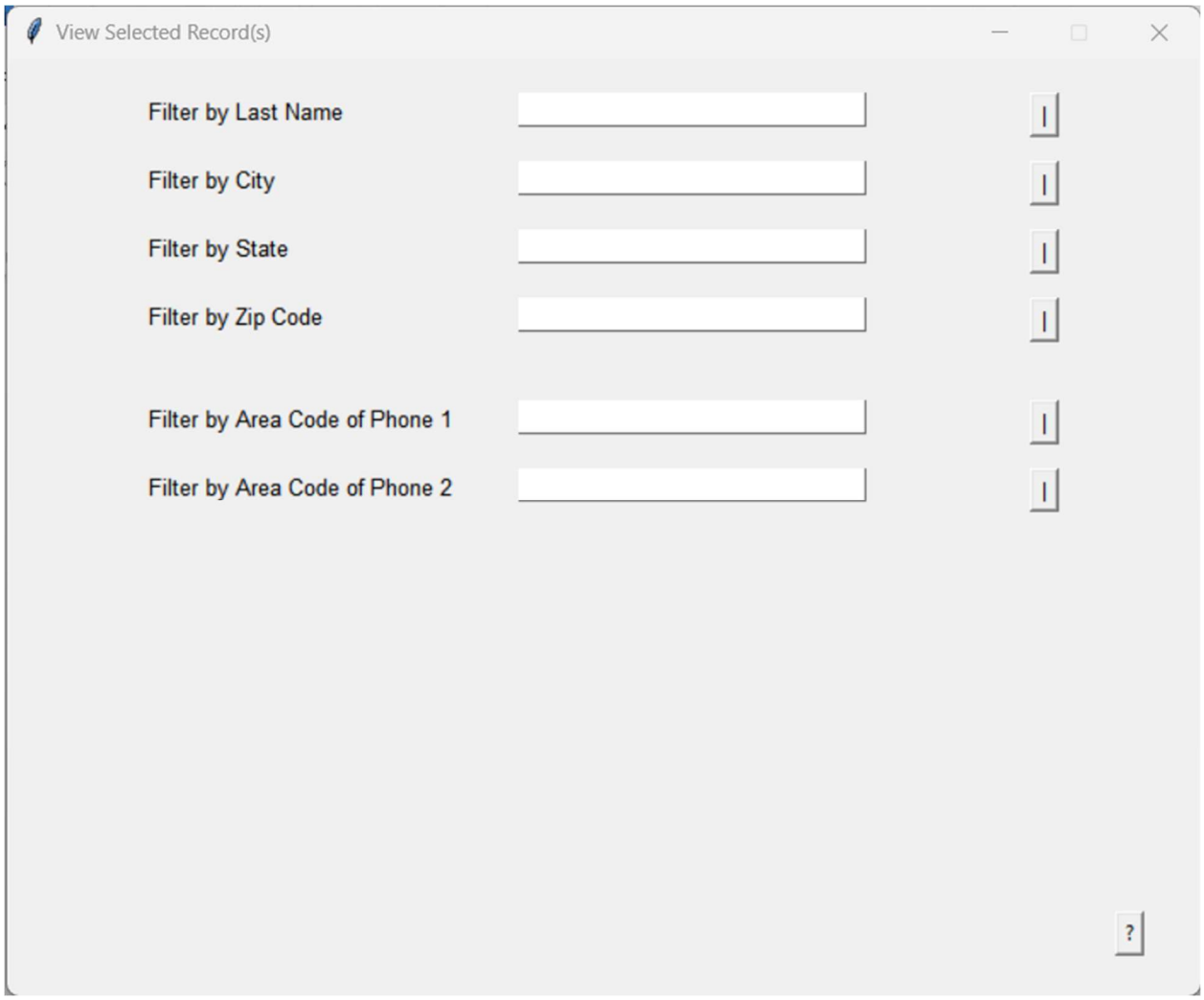

Figure 8: Filter Records

9.1 Figure 8 description:

This shows all records with the value specified. For instance, **Filter by State** would display all records with specified state. **Filter by Area Code of Phone 1** would display all records that have the specified area code in the phone1 field. The process takes the area code out of the phone field. If the correct input, a three-digit number is not given, there will be a notification.

9.2 Step-by-step Instructions:

1. Enter relevant data to filter by field.

9.3 Example:

Filter by Last Name: Hiers

Filter by Area Code of Phone 1: 843

10. Sort Records

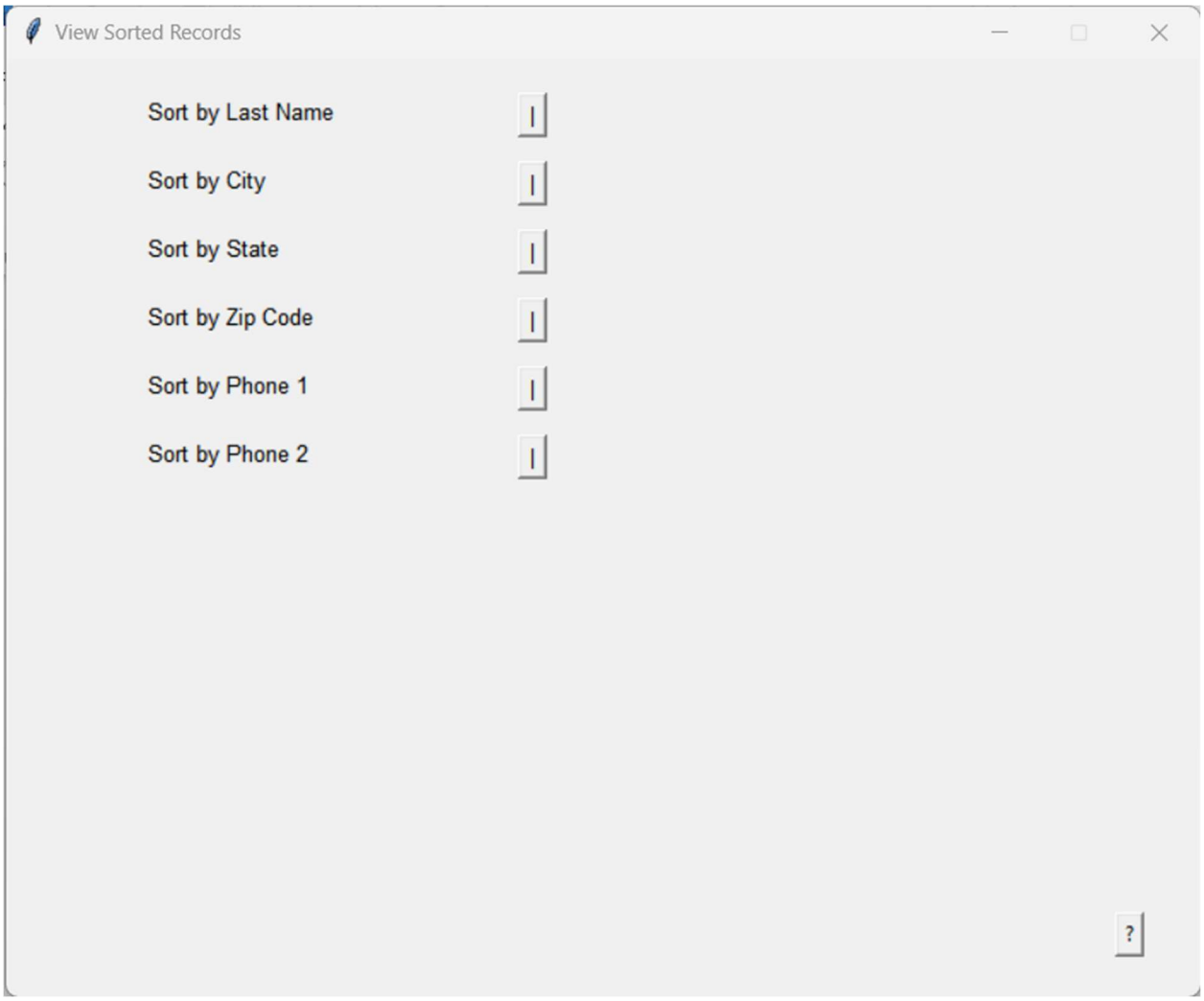

Figure 9: Sort Records

10.1 Figure 9 description:

This sorts the data. For instance, **Sort by Last Name** would display all the records based on last name, in sorted order.

10.2 Step-by-step Instructions:

1. Click to sort by field.

11. Extra Functions for Database

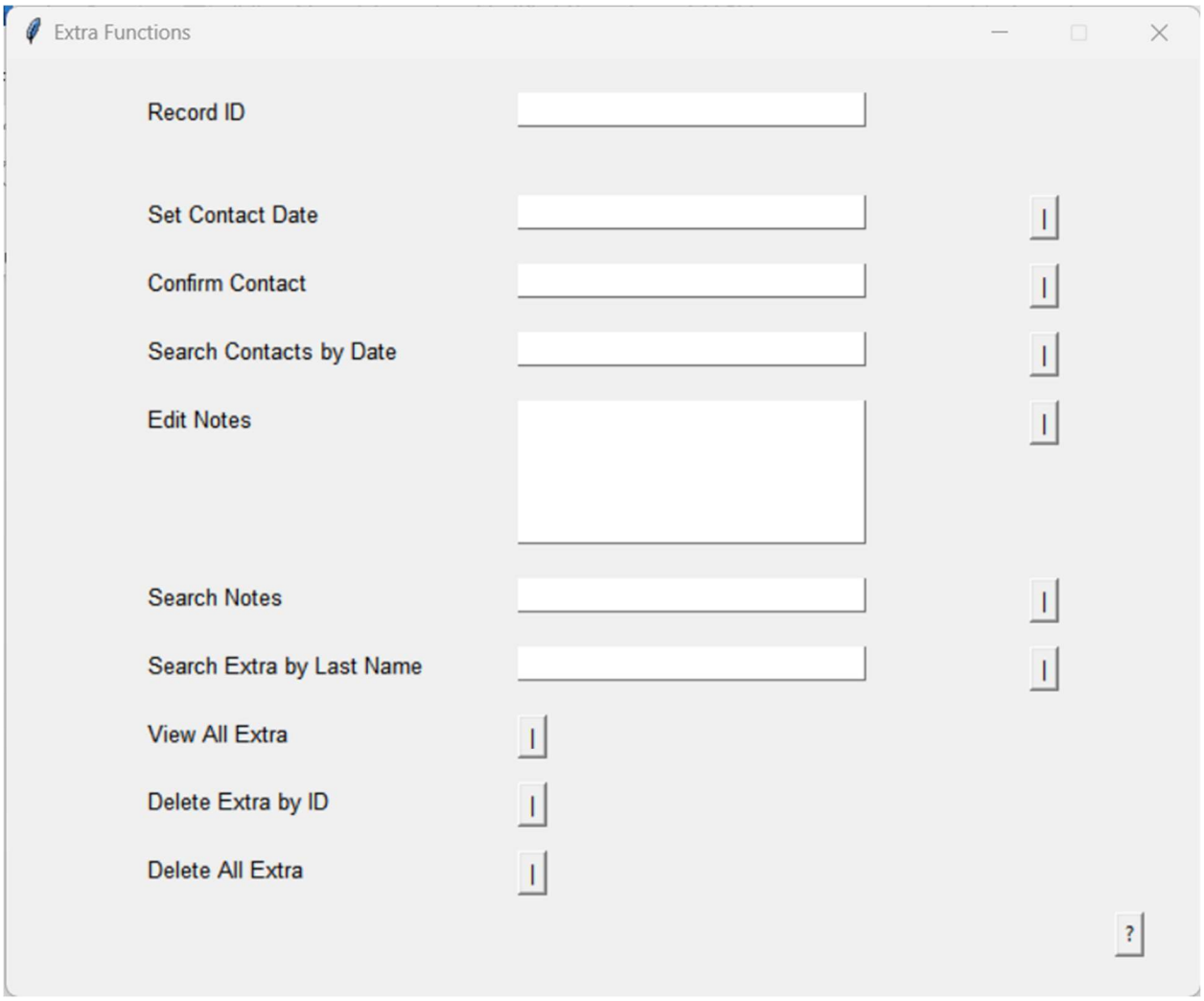

Figure 10: Extra Functions for Database

11.1 Figure 10 description:

Confirm the current record in the **Record ID** input field. **Set Contact Date** edits the record by adding or editing a date for the contacting of the record with current ID. Enter date with a valid and appropriate format. **Confirm Contact** allows for the confirmation of the contact with current ID. Enter or set with a valid and appropriate format. **Search Contacts by Date** displays all the contact information for the specified date. **Edit Notes** adds an appropriate reminder to the record with the current ID. **Search Notes** searches all notes fields for a specific string. **Search Extra by Last Name** displays the current extra information for the specified last name. **View All Extra** displays the extra information for all records in the current database. **Delete Extra By ID** removes all extra information from the record with the current ID. **Delete All Extra** removes all extra information from all records.

11.2 Step-by-step Instructions:

1. Enter ID for current record.
2. Enter relevant data to proceed.
3. Choose function.

11.3 Example:

Record ID: 3
Set Contact Date: 3/3/23
Confirm Contact: yes
Search Contacts by Date: 3/3/23
Edit Notes: Contact by May
Search Notes: Contact
Search Extra by Last Name: Hiers

12. Custom SQL

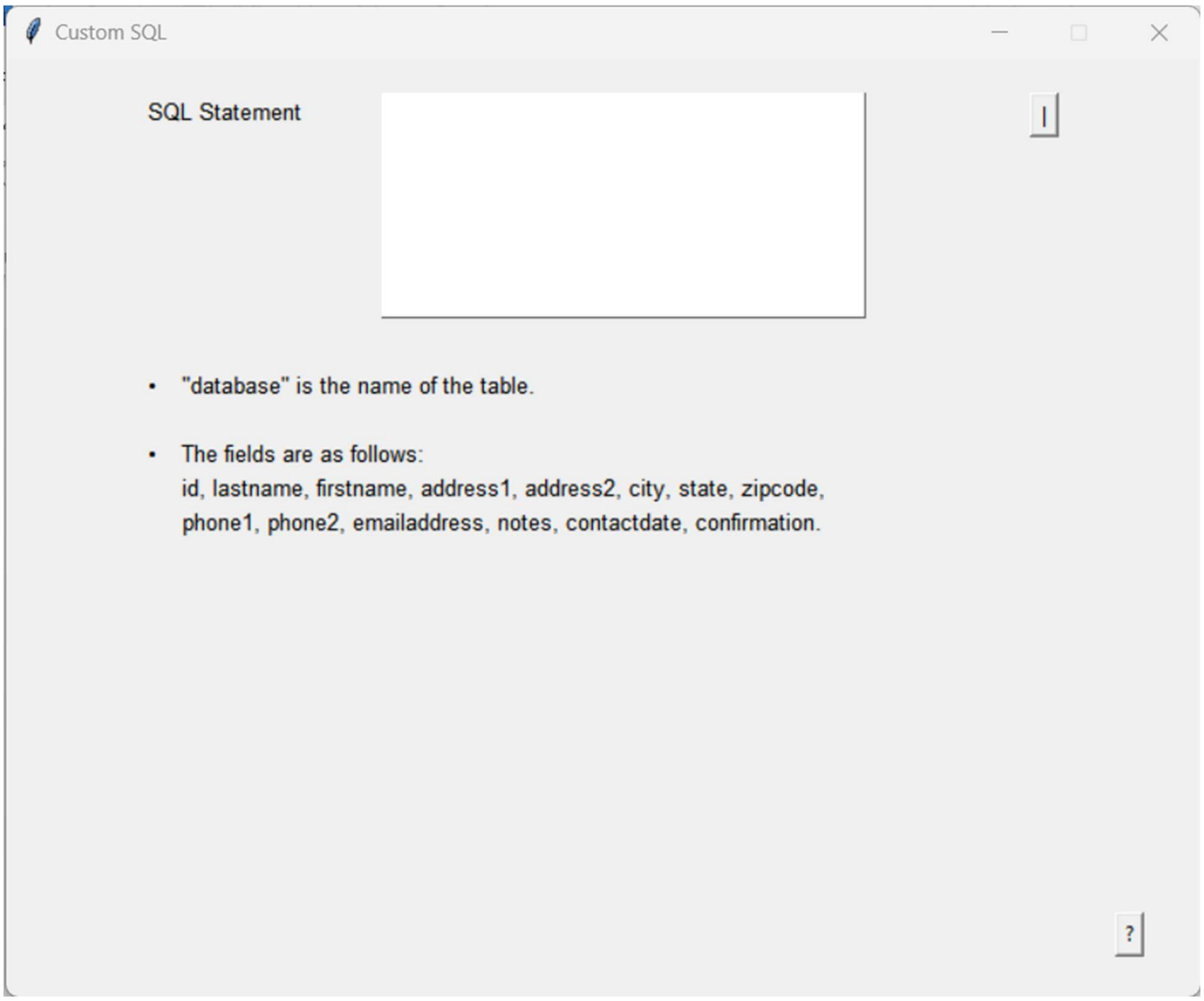

Figure 11: Custom SQL

12.1 Figure 11 description:

This allows for the creation of specific user generated SQL code to query the database.

- "database" is the name of the table.
- The fields are as follows:
  - id, lastname, firstname, address1, address2, city, state, zipcode, phone1, phone2, emailaddress, notes, contactdate, confirmation.

12.2 Step-by-step Instructions:

1. Enter a SQL query and click to run it.

12.3 Example:

SQL Statement: SELECT lastname, firstname FROM database WHERE firstname = ‘John’

13. Main Help

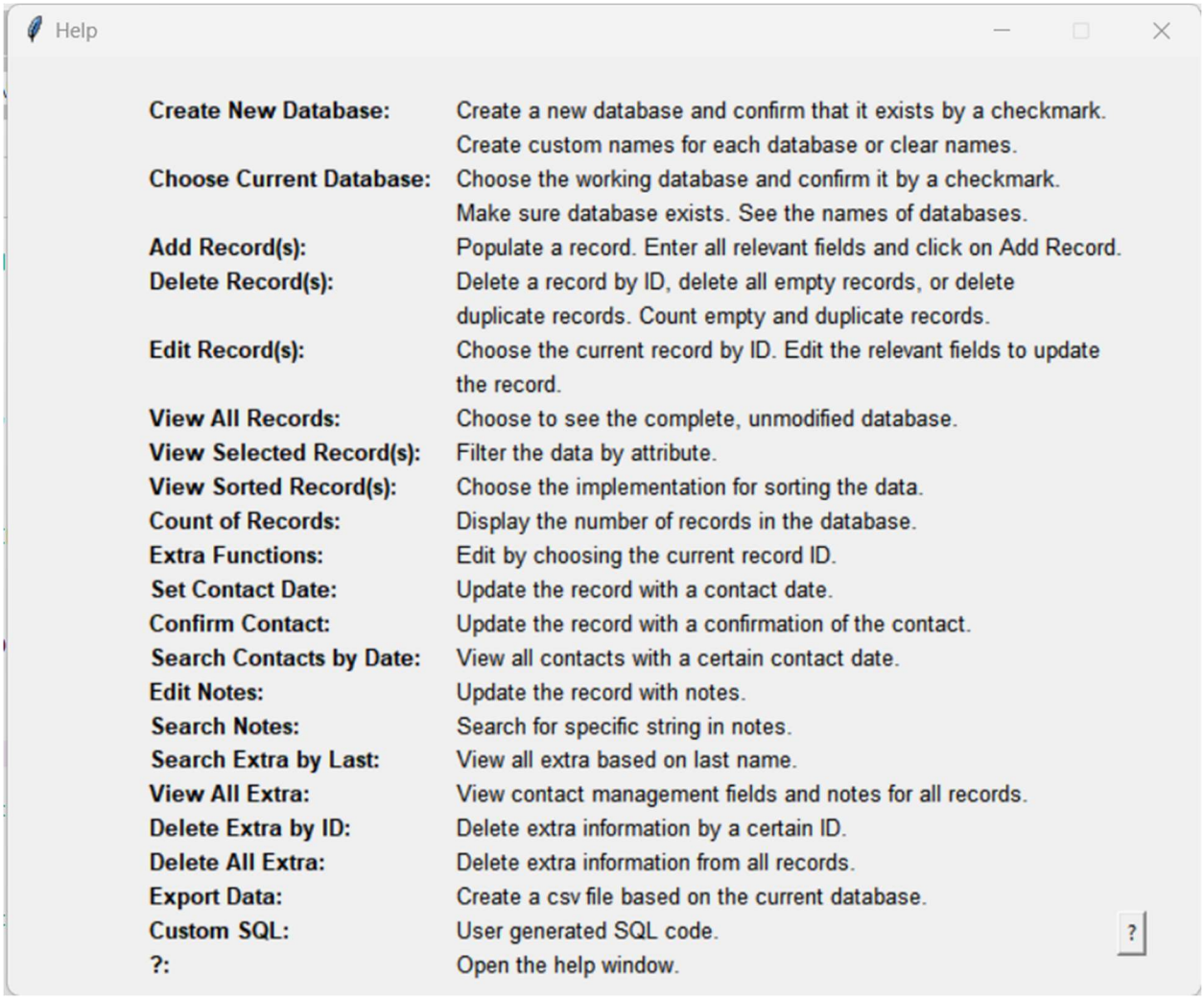

Figure 12: Main Help

13.1 Figure 12 description:

All functions in the program are detailed here.

14. Help Example

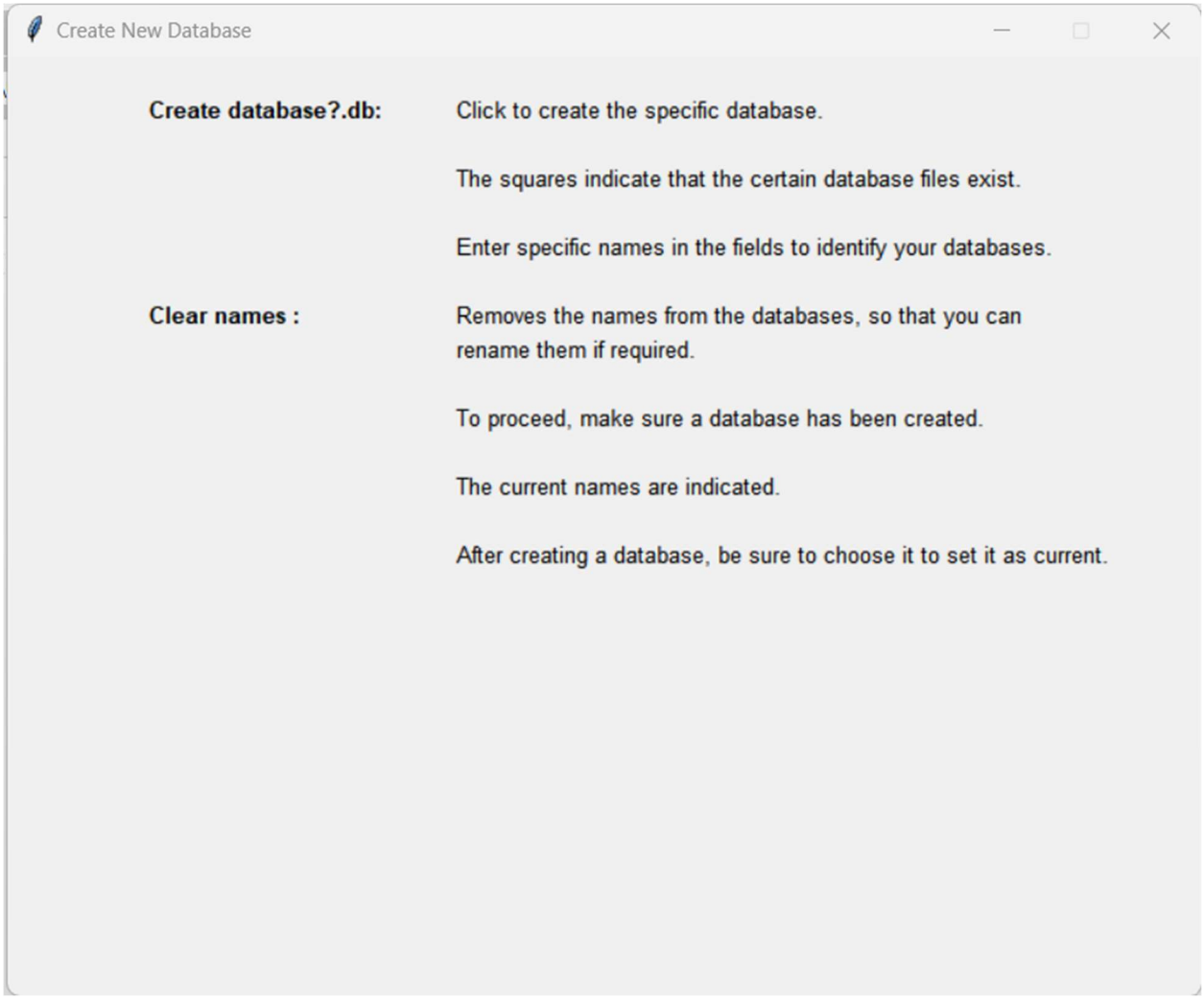

Figure 13: Help Example

14.1 Figure 13 description:

Example help window.

15. Relevant files:

- data.dat — text file for names of databases
- database1.db — created databases
- database2.db
- database3.db
- database1.csv — created comma separated values files
- database2.csv
- database3.csv
- manual.pdf — manual for the program

16. Convention examples

16.1 Suggested:

- State: SC
- Contact date: 3/16/23

16.2 Mandatory:

- Phone 123-456-7890

17. Common error:

- "no such table: database"
  - make sure database is created and is selected as current.
- Empty output window
  - make sure database is created and is selected as current.