**User Management System Instructions**

**Overview**

This program is designed to manage user data using a functional approach. It stores user information, including email, password, first name, last name, and age, in a dictionary.

**How to Use the Program**

1. **Running the Program**:
   * To start the program, execute the user\_management.py script in your Python environment.
2. **Main Menu Options**:
   * Upon starting, you will see a menu with three options:
     1. **Signup**: Create a new user account.
     2. **Sign-in**: Access your existing account.
     3. **Exit**: Terminate the program.
3. **Signup Process**:
   * Select option 1 for Signup.
   * Enter your email ID. The program will validate that the email is in the correct format.
   * If the email already exists in the system, you will be prompted to try again.
   * Enter a password, first name, last name, and age. The program will check that age is a valid integer and not zero or negative.
4. **Sign-in Process**:
   * Select option 2 for Sign-in.
   * Enter your email ID. If the email is not found, you will have the option to try signing up or sign in with a different email.
   * Enter your password. If it matches the stored password, you will be signed in successfully.
5. **Exiting the Program**:
   * Select option 3 to exit the application. A goodbye message will be displayed.

**Error Handling**

* The program includes error handling for invalid inputs, ensuring that the user is guided to provide correct information, including:
  + Up to five attempts for choosing options.
  + Validation of email format.
  + Integer validation for age.

**Song Management System Instructions**

**Overview**

This program allows developers to interact with a database of songs efficiently. It manages song data using a class-based structure and allows operations like loading, viewing, deleting, and modifying songs.

**How to Use the Program**

1. **Running the Program**:
   * To start the program, execute the songs\_management.py script in your Python environment. Ensure that the necessary song data file (song\_data.txt) is present in the same directory.
2. **Developer Menu Options**:
   * Upon starting, you will see a developer menu with five options:
     1. **Load Song Data**: Load songs from a specified file.
     2. **View Song Database**: Display all songs in the database.
     3. **Delete a Song**: Remove a song from the database.
     4. **Modify a Song**: Change the details of an existing song.
     5. **Exit**: Terminate the program.
3. **Loading Song Data**:
   * Select option 1.
   * Enter the name of the file from which you want to load songs. The file should contain song attributes separated by commas (title, artist, album, genre, duration).
   * If the file is found, songs will be loaded into the database. If not, an error message will be displayed.
4. **Viewing the Song Database**:
   * Select option 2 to display the current list of songs in the database, showing their titles, artists, and genres in a formatted table.
5. **Deleting a Song**:
   * Select option 3.
   * Enter the artist's name and the title of the song you wish to delete. If the song is found, it will be removed from the database.
6. **Modifying a Song**:
   * Select option 4.
   * Enter the artist's name and the title of the song you want to modify. You will see the current details and be prompted to enter new values for the album, genre, and duration. Press Enter to keep existing values.
7. **Exiting the Program**:
   * Select option 5 to exit the application. A goodbye message will be displayed.

**Error Handling**

* The program includes error handling for various operations, including:
  + Checking for file existence when loading songs.
  + Validating artist and song names during deletion and modification.
  + Informing users of invalid menu selections.

**Song and Artist Search System Instructions**

**Overview**

This program allows users to search for songs and artists from a playlist. It efficiently manages song data using classes and enables searching by song title or artist name.

**How to Use the Program**

1. **Running the Program**:
   * To start the program, execute the searching\_song\_and\_artist.py script in your Python environment. Ensure that the Songs.txt file is present in the same directory, containing song data in the format: title, artist, album, genre, duration.
2. **User Menu Options**:
   * Upon starting, you will see a user menu with three options:
     1. **Search for a Song by Title**: Find a specific song by its title.
     2. **Search for all Songs by an Artist**: List all songs by a specific artist.
     3. **Exit**: Terminate the program.
3. **Searching for a Song**:
   * Select option 1.
   * Enter the song title you wish to search for. The program will format the input and search through the playlist.
   * If the song is found, details including the artist, genre, and album will be displayed. If not, a message will indicate that the song was not found.
4. **Searching for Songs by an Artist**:
   * Select option 2.
   * Enter the artist’s name you wish to search for. The program will check if the artist exists in the playlist.
   * If the artist is found, all songs associated with that artist will be listed along with their details. If not, a message will indicate that the artist was not found.
5. **Exiting the Program**:
   * Select option 3 to exit the application. A goodbye message will be displayed.

**Error Handling**

* The program includes error handling for various operations, including:
  + Ensuring valid input when selecting menu options.
  + Checking for song and artist existence in the playlist.