PhoneBook Application Documentation

Overview

The PhoneBook application is a command-line tool for managing contacts. Users can add, update, delete, search, and sort contacts, and load them from a CSV file. The app validates phone numbers and emails, and allows grouping contacts by first or last name.

Classes and Methods

Utility Functions

- **validate_phone(phone)**: Validates the phone number format (###) ###-####.
- **validate_email(email)**: Validates email format; optional email returns True.

Contact Class

Initialization

def __init__(self, first_name, last_name, phone_number, email=None, address=None):

Attributes: first_name, last_name, phone_number, email, address, created_at, updated_at.

Methods

- **display()**: Displays the contact's details.
- **update(first_name, last_name, phone_number, email=None, address=None)**: Updates contact details and sets the updated_at timestamp.

PhoneBook Class

Initialization

def __init__(self):

- Initializes an empty contacts list.

Methods

- **load_contacts_from_csv(file_path)**: Loads contacts from a CSV file.

- **add_contact(first_name, last_name, phone_number, email=None, address=None)**: Adds a new contact with phone/email validation.

- **display_all_contacts()**: Displays all contacts.

- **search_contacts(query)**: Searches contacts by name.

- **group_contacts_by_first_name()**: Groups contacts by the first letter of the first name.

- **group_contacts_by_last_name()**: Groups contacts by the first letter of the last name.

- **sort_contacts(by="first_name")**: Sorts contacts by first_name or last_name.

- **delete_contact(first_name, last_name)**: Deletes a contact.

- **update_contact(first_name, last_name)**: Prompts the user to update contact details.

PhoneBook CLI

Menu Options

1. **Add Contact**: Adds a new contact.

2. **View All Contacts**: Displays all contacts.

3. **Search Contacts**: Searches for contacts.

4. **Update Contact**: Updates an existing contact.

5. **Delete Contact**: Deletes a contact.

6. **Load Contacts from CSV**: Loads contacts from a CSV file.

7. **Group Contacts by First Name**: Groups contacts by first name.

8. **Group Contacts by Last Name**: Groups contacts by last name.

9. **Sort Contacts**: Sorts contacts by first or last name.

10. **Exit**: Exits the application.

CSV Integration

- **load_contacts_from_csv(file_path)**: Loads contacts from a CSV with columns: First Name, Last Name, Phone Number, Email, and Address.