Attached you will find documentation for an API that provides the back end for a simple "address book" app. Your task is to write an end-to-end automation script for at least one complete flow of the front-end app.

A "flow" could be any single process from beginning to end (e.g., creating a contact, editing a contact, deleting a contact, filtering, sorting, etc.).

You may use any libraries or frameworks you wish to aid in completing the task.

The address book app supports the following features:

- Get the list of contacts from the back end and present them as a list. The list should display both first and last names and a subset of the full data for each entry (such as email address and phone number) in a compact way — it should look like a list.

- Support viewing the full data of one contact at a time.

- Support sorting the list by first name, last name, and email address.

- Support searching (filtering) the list by typing into a text field. It should filter on first name, last name, and email address (all at once, or configure which field to filter on).

- Support adding new entries and updating and deleting existing ones. The app should support deleting multiple entries at once.

- When adding or editing entries, the app must validate email addresses and phone numbers against certain patterns. For email addresses, the acceptable pattern is any letter, number, period, or underscore followed by an @ symbol and then any number of domain and subdomain names separated with periods. For phone numbers, the input pattern is *nnn nnn nnnn*, with or without punctuation/whitespace in between the number groups (e.g., 805.555.1234), but the app should reformat the number as *(nnn) nnn-nnnn* in all other views.

API base URL: **http://front-end.oudemo.com/api**

NOTE: All endpoints accept requests with content type `x-www-form-urlencoded` or `application/json`. All responses will be returned with content type `application/json`.

/address/list	GET

Returns the entire address book

Parameters:

    apikey (required) - supplied to you via email

Example output:

```
{
    "result":[
      {
         "address":"1320 Flynn Rd.",
         "address2":"Suite 100",
         "city":"Camarillo",
         "email":"jane@doe.com",
         "firstName":"Jane",
         "id":"5LHtSuvqMj",
         "lastName":"Doe",
         "phone":"8055551234",
         "state":"CA",
         "zipcode":"93012"
      },
      {
         "address":"1320 Flynn Rd.",
         "city":"Camarillo",
         "email":"john@doe.com",
         "firstName":"John",
         "id":"KufLsqx4ha",
         "lastName":"Doe",
         "phone":"8055555678",
         "state":"CA",
         "zipcode":"93012"
      }
    ]
}
```

/address/view	GET

Returns a single entry from the address book

Parameters:

    apikey (required) - supplied to you via email

    id (required) - id of the object you want to fetch

Example output:

```
{
    "address":"1320 Flynn Rd.",
    "city":"Camarillo",
    "email":"john@doe.com",
    "firstName":"John",
    "id":"KufLsqx4ha",
    "lastName":"Doe",
    "phone":"8055555678",
    "state":"CA",
    "zipcode":"93012"

}
```

/address/new	POST

Adds a new entry to the address book

Parameters:

apikey (required) - supplied to you via email

firstName (optional)

lastName (optional)

email (optional)

phone (optional)

address (optional)

address2 (optional)

city (optional)

state (optional)

zipcode (optional)

Example output:

```
{
    "id":"KufLsqx4ha",
    "firstName":"John",
    "lastName":"Doe",
    "phone":"8055555678",
    "email":"john@doe.com",
    "address":"1320 Flynn Rd.",
    "city":"Camarillo",
    "state":"CA",
    "zipcode":"93012"
}
```

/address/delete	POST

Deletes a single entry from the address book

Parameters:

   apikey (required) - supplied to you via email

   id (required) - id of the object you want to delete

Example output:

```
{
    "message":"success"
}
```

/address/update	POST

Updates a single entry in the address book

Parameters:

apikey (required) - supplied to you via email

id (required) - id of the object you want to update

firstName (optional)

lastName (optional)

email (optional)

phone (optional)

address (optional)

address2 (optional)

city (optional)

state (optional)

zipcode (optional)

Example output:

```
{
    "id":"KufLsqx4ha",
    "firstName":"John",
    "lastName":"Doe",
    "phone":"8055555678",
    "email":"john@doe.com",
    "address":"1320 Flynn Rd.",
    "city":"Camarillo",
    "state":"CA",
    "zipcode":"93012"
}
```