Address-Book

By Vishal Patil

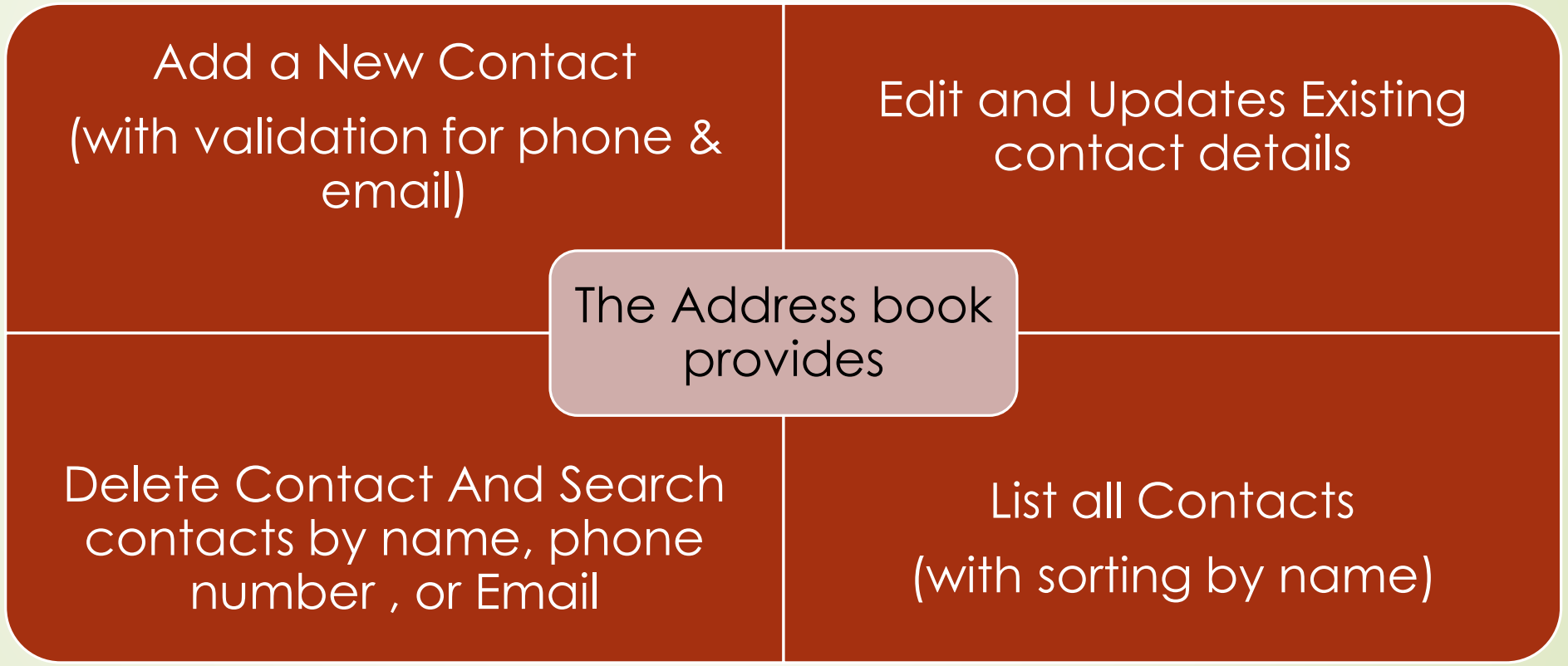
objectives

- Apply Fundamental concepts of C programming in real-world project.
- Implement Create , Read ,Update , Delete (CRUD) operations.
- Learn to persist data using file handling (CSV storage).
- Practice problem-solving, input validation, and modular programming.
- Build a solid foundation for system-level and embedded programming.

Prerequisites

- C Programming fundamentals (variables , loops , function).
- Structure and pointers for handling complex data.
- Arrays and Strings manipulation for name, number, and E-mails.
- File I\O operation.
- Modular Programming with .c and .h flies.

Features


Add a New Contact
(with validation for phone & email)
Edit and Updates Existing contact details
The Address book provides
Delete Contact And Search contacts by name, phone number , or Email
List all Contacts
(with sorting by name)

File Edit Selection View Go Run Terminal Help

addressbook project

EXPLORER

OPEN EDITORS 1 unsaved
- contact.c 2
- file.h
- main.c 2
- file.c 2
- contact.h
- populate.c
- populate.h

ADDRESSBOOK PROJECT
- contact.h
- file.c 2
- file.h
- main.c 2
- populate.c

DEBUG CONSOLE

Filter (e.g. text, !...

OUTLINE
- FILE_H
- loadContactsFrom...
- saveContactsToFile...

TIMELINE file.h
- File Saved 13 mins
- File Saved 2 days

contact.c 2 | file.h | main.c 2 | file.c 2 | contact.h | populate.c | populate.h

file.h > ...

```
1  #ifndef FILE_H
2  #define FILE_H
3
4  #include "contact.h"
5
6  void loadContactsFromFile(AddressBook *addressBook);
7  void saveContactsToFile(AddressBook *addressBook);
8
9  #endif
10
```

PROBLEMS 6 | OUTPUT | TERMINAL | PORTS

wsl
wsl
wsl
wsl

```
vishalp@DESKTOP-88GOB4Q:/mnt/d/addressbook project$ ./addressbook project

Address Book Menu:
1. Create contact
2. Search contact
3. Edit contact
4. Delete contact
5. List all contacts
6. Save contacts
7. Exit
Enter your choice: 1
Enter name: vishal
Enter phone: 887766554433
Enter email: vishal@gmail.com
Contact created successfully.

Address Book Menu:
1. Create contact
2. Search contact
3. Edit contact
4. Delete contact
```

Launchpad ⊗ 6 ⚠ 0

Ln 10, Col 1 Spaces: 4 UTF-8 CRLF {} C++ Win32

File Edit Selection View Go Run Terminal Help

addressbook project

EXPLORER

OPEN EDITORS 1 unsaved
- contact.c 2
- file.h
- main.c 2
- file.c 2
- contact.h
- populate.c
- populate.h

ADDRESSBOOK PROJECT
- contact.h
- file.c 2
- file.h
- main.c 2
- populate.c

DEBUG CONSOLE

Filter (e.g. text, !...

OUTLINE
- FILE_H
- loadContactsFrom...
- saveContactsToFile...

TIMELINE file.h
- File Saved 13 mins
- File Saved 2 days

contact.c 2 | file.h | main.c 2 | file.c 2 | contact.h | populate.c | populate.h

file.h > ...

```
1  #ifndef FILE_H
2  #define FILE_H
3
4  #include "contact.h"
5
6  void loadContactsFromFile(AddressBook *addressBook);
7  void saveContactsToFile(AddressBook *addressBook);
8
9  #endif
10
```

PROBLEMS 6 | OUTPUT | TERMINAL | PORTS

wsl
wsl
wsl
wsl

```
4. Carol White | 4445556666 | carol@company.com
5. David Brown | 7778889999 | david@example.com
6. Eve Davis | 6665554444 | eve@example.com
7. Frank Miller | 3334445555 | frank@example.com
8. Grace Wilson | 2223334444 | grace@example.com
9. Hannah Clark | 5556667777 | hannah@example.com
10. Ian Lewis | 8889990000 | ian@example.com

Address Book Menu:
1. Create contact
2. Search contact
3. Edit contact
4. Delete contact
5. List all contacts
6. Save contacts
7. Exit
Enter your choice: 2
Enter name to search: Ian Lewis
Found: Ian Lewis | 8889990000 | ian@example.com

Address Book Menu:
```

Launchpad ⊗ 6 ⚠ 0 | Ln 10, Col 1 | Spaces: 4 | UTF-8 | CRLF | {} C++ | Win32

File Edit Selection View Go Run Terminal Help

addressbook project

EXPLORER

OPEN EDITORS 1 unsaved
- contact.c 2
- file.h
- main.c 2
- file.c 2
- contact.h
- populate.c
- populate.h

ADDRESSBOOK PROJECT
- contact.h
- file.c 2
- file.h
- main.c 2
- populate.c

DEBUG CONSOLE

Filter (e.g. text, !...

OUTLINE
- FILE_H
- loadContactsFrom...
- saveContactsToFile...

TIMELINE file.h
- File Saved 13 mins
- File Saved 2 days

contact.c 2 | file.h | main.c 2 | file.c 2 | contact.h | populate.c | populate.h

file.h > ...

```
1  #ifndef FILE_H
2  #define FILE_H
3
4  #include "contact.h"
5
6  void loadContactsFromFile(AddressBook *addressBook);
7  void saveContactsToFile(AddressBook *addressBook);
8
9  #endif
10
```

PROBLEMS 6 | OUTPUT | TERMINAL | PORTS

wsl
wsl
wsl
wsl

```
Address Book Menu:
1. Create contact
2. Search contact
3. Edit contact
4. Delete contact
5. List all contacts
6. Save contacts
7. Exit
Enter your choice: 5

--- Contact List ---
1. John Doe | 1234567890 | john@example.com
2. Alice Smith | 0987654321 | alice@example.com
3. Bob Johnson | 1112223333 | bob@company.com
4. Carol White | 4445556666 | carol@company.com
5. David Brown | 7778889999 | david@example.com
6. Eve Davis | 6665554444 | eve@example.com
7. Frank Miller | 3334445555 | frank@example.com
8. Grace Wilson | 2223334444 | grace@example.com
9. Hannah Clark | 5556667777 | hannah@example.com
```

Launchpad ⊗ 6 ⚠ 0

Ln 10, Col 1 Spaces: 4 UTF-8 CRLF {} C++ Win32

File Edit Selection View Go Run Terminal Help

addressbook project

EXPLORER

OPEN EDITORS 1 unsaved
- contact.c 2
- file.h
- main.c 2
- file.c 2
- contact.h
- populate.c
- populate.h

ADDRESSBOOK PROJECT
- contact.h
- file.c 2
- file.h
- main.c 2
- populate.c

DEBUG CONSOLE

Filter (e.g. text, !...

OUTLINE
- FILE_H
- loadContactsFrom...
- saveContactsToFile...

TIMELINE file.h
- File Saved 13 mins
- File Saved 2 days

contact.c 2 | file.h | main.c 2 | file.c 2 | contact.h | populate.c | populate.h

file.h > ...

```c
#ifndef FILE_H
#define FILE_H

#include "contact.h"

void loadContactsFromFile(AddressBook *addressBook);
void saveContactsToFile(AddressBook *addressBook);

#endif

```

PROBLEMS 6 OUTPUT TERMINAL PORTS

```
6. Eve Davis | 6665554444 | eve@example.com
7. Frank Miller | 3334445555 | frank@example.com
8. Grace Wilson | 2223334444 | grace@example.com
9. Hannah Clark | 5556667777 | hannah@example.com
10. Ian Lewis | 8889990000 | ian@example.com

Address Book Menu:
1. Create contact
2. Search contact
3. Edit contact
4. Delete contact
5. List all contacts
6. Save contacts
7. Exit
Enter your choice: 6
Saving and Exiting...

Address Book Menu:
1. Create contact
2. Search contact
3. Edit contact
```

wsl
wsl
wsl
wsl

Launchpad ⊗ 6 ⚠ 0 Ln 10, Col 1 Spaces: 4 UTF-8 CRLF {} C++ Win32

Key Learnings

- Strengthened my understanding of C fundamentals.
- Learned how to design projects using modular programming.
- Applied error handling and input validation in real scenarious.
- Understood how file handling enables persistence in applications.
- Gained experience in structuring code for scalability.