

# Phone Book

## Code of program:-

```
#include <iostream>
#include <string>
#include <vector>

using namespace std;

struct Contact {
    string name;
    string phoneNumber;
};

vector<Contact> phoneBook;

void addContact() {
    Contact contact;
    cout << "Enter the name: ";
    cin.ignore();
    getline(cin, contact.name);
    cout << "Enter the phone number: ";
    getline(cin, contact.phoneNumber);
    phoneBook.push_back(contact);
    cout << "Contact added successfully!\n";
}

void displayContacts() {
    if (phoneBook.empty()) {
        cout << "Phone book is empty!\n";
        return;
    }

    cout << "Phone Book:\n";
    for (const auto& contact : phoneBook) {
        cout << "Name: " << contact.name << endl;
        cout << "Phone Number: " << contact.phoneNumber << endl;
        cout << "-----\n";
    }
}
```

```
}  
}
```

```
void searchContact(const string& name) {  
    bool found = false;  
    for (const auto& contact : phoneBook) {  
        if (contact.name == name) {  
            cout << "Contact found:\n";  
            cout << "Name: " << contact.name << endl;  
            cout << "Phone Number: " << contact.phoneNumber << endl;  
            found = true;  
            break;  
        }  
    }  
    if (!found) {  
        cout << "Contact not found!\n";  
    }  
}
```

```
void deleteContact(const string& name) {  
    bool found = false;  
    for (auto it = phoneBook.begin(); it != phoneBook.end(); ++it) {  
        if (it->name == name) {  
            phoneBook.erase(it);  
            cout << "Contact deleted successfully!\n";  
            found = true;  
            break;  
        }  
    }  
    if (!found) {  
        cout << "Contact not found!\n";  
    }  
}
```

```
int main() {  
    int choice;  
    string searchName;  
  
    while (true) {  
        cout << "=====\n";
```

```

cout << "Welcome to Phone Book\n";
cout << "=====\n";
cout << "1. Add Contact\n";
cout << "2. Display Contacts\n";
cout << "3. Search Contact\n";
cout << "4. Delete Contact\n";
cout << "5. Quit\n";
cout << "Enter your choice: ";
cin >> choice;

switch (choice) {
    case 1:
        addContact();
        break;
    case 2:
        displayContacts();
        break;
    case 3:
        cout << "Enter the name to search: ";
        cin.ignore();
        getline(cin, searchName);
        searchContact(searchName);
        break;
    case 4:
        cout << "Enter the name to delete: ";
        cin.ignore();
        getline(cin, searchName);
        deleteContact(searchName);
        break;
    case 5:
        cout << "Thank you for using Phone Book!\n";
        return 0;
    default:
        cout << "Invalid choice! Please try again.\n";
        break;
}
}
}

```

## Output:-

=====

Welcome to Phone Book

=====

1. Add Contact
2. Display Contacts
3. Search Contact
4. Delete Contact
5. Quit

Enter your choice: 1

Enter the name: John Doe

Enter the phone number: 1234567890

Contact added successfully!

=====

Welcome to Phone Book

=====

1. Add Contact
2. Display Contacts
3. Search Contact
4. Delete Contact
5. Quit

Enter your choice: 1

Enter the name: Jane Smith

Enter the phone number: 9876543210

Contact added successfully!

=====

Welcome to Phone Book

=====

1. Add Contact
2. Display Contacts
3. Search Contact
4. Delete Contact
5. Quit

Enter your choice: 2

Phone Book:

Name: John Doe

Phone Number: 1234567890

-----  
Name: Jane Smith  
Phone Number: 9876543210  
-----

=====  
Welcome to Phone Book  
=====

1. Add Contact  
2. Display Contacts  
3. Search Contact  
4. Delete Contact  
5. Quit  
Enter your choice: 3  
Enter the name to search: John Doe  
Contact found:  
Name: John Doe  
Phone Number: 1234567890

=====  
Welcome to Phone Book  
=====

1. Add Contact  
2. Display Contacts  
3. Search Contact  
4. Delete Contact  
5. Quit  
Enter your choice: 4  
Enter the name to delete: Jane Smith  
Contact deleted successfully!

=====  
Welcome to Phone Book  
=====

1. Add Contact  
2. Display Contacts  
3. Search Contact  
4. Delete Contact  
5. Quit  
Enter your choice: 2

Phone Book:

Name: John Doe

Phone Number: 1234567890

-----

=====

Welcome to Phone Book

=====

1. Add Contact
2. Display Contacts
3. Search Contact
4. Delete Contact
5. Quit

Enter your choice: 5

Thank you for using Phone Book!