In [ ]:

```
import numpy as np

class ContactBook:
    def __init__(self):
        self.contacts = np.array([], dtype={
            'names': ('name', 'number', 'email', 'address'),
            'formats': ('U50', 'U20', 'U50', 'U100')
        })

    def add_contact(self, name, number, email, address):
        if name in self.contacts['name']:
            print(f"{name} already exists in the contact book.")
        else:
            new_contact = np.array([(name, number, email, address)], dtype=self.contacts.dtype)
            self.contacts = np.concatenate((self.contacts, new_contact))
            print(f"Contact {name} added successfully.")

    def delete_contact(self, name):
        if name in self.contacts['name']:
            self.contacts = self.contacts[self.contacts['name'] != name]
            print(f"Contact {name} deleted successfully.")
        else:
            print(f"{name} does not exist in the contact book.")

    def display_contact(self, name):
        mask = self.contacts['name'] == name
        if np.any(mask):
            contact = self.contacts[mask][0]
            print("\nContact details:")
            print(f"Name: {contact['name']}")
            print(f"Number: {contact['number']}")
            print(f"Email: {contact['email']}")
            print(f"Address: {contact['address']}")
        else:
            print(f"{name} does not exist in the contact book.")

    def view_contacts(self):
        if len(self.contacts) == 0:
            print("Contact book is empty.")
        else:
            print("\nContacts:")
            for contact in self.contacts:
                print("----------------------")
                print(f"Name: {contact['name']}")
                print(f"Number: {contact['number']}")
                print(f"Email: {contact['email']}")
                print(f"Address: {contact['address']}")
            print("----------------------")

def main():
    contact_book = ContactBook()

    while True:
        print("\nWelcome to the Contact Book!")
        print("1. Add Contact")
        print("2. Delete Contact")
        print("3. Display Contact")
        print("4. View Contacts")
        print("5. Exit")

        choice = input("Enter your choice (1-5): ")

        if choice == '1':
            name = input("Enter name: ")
            number = input("Enter number: ")
            email = input("Enter email: ")
            address = input("Enter address: ")
            contact_book.add_contact(name, number, email, address)

        elif choice == '2':
            name = input("Enter name to delete: ")
            contact_book.delete_contact(name)

        elif choice == '3':
            name = input("Enter name to display: ")
            contact_book.display_contact(name)

        elif choice == '4':
            contact_book.view_contacts()

        elif choice == '5':
            print("Exiting Contact Book. Goodbye!")
            break

        else:
            print("Invalid choice. Please enter a number between 1 and 5.")
```

```python
if __name__ == "__main__":
    main()
```

```
Welcome to the Contact Book!
1. Add Contact
2. Delete Contact
3. Display Contact
4. View Contacts
5. Exit
Enter your choice (1-5): 1
Enter name: adhya
Enter number: 456789
Enter email: abc@gmail.com
Enter address: lucknow
Contact adhya added successfully.

Welcome to the Contact Book!
1. Add Contact
2. Delete Contact
3. Display Contact
4. View Contacts
5. Exit
Enter your choice (1-5): 3
Enter name to display: adhya

Contact details:
Name: adhya
Number: 456789
Email: abc@gmail.com
Address: lucknow

Welcome to the Contact Book!
1. Add Contact
2. Delete Contact
3. Display Contact
4. View Contacts
5. Exit
Enter your choice (1-5): 2
Enter name to delete: adhya
Contact adhya deleted successfully.

Welcome to the Contact Book!
1. Add Contact
2. Delete Contact
3. Display Contact
4. View Contacts
5. Exit
Enter your choice (1-5): 3
Enter name to display: adhya
adhya does not exist in the contact book.

Welcome to the Contact Book!
1. Add Contact
2. Delete Contact
3. Display Contact
4. View Contacts
5. Exit
```

In [ ]: