import java.io.\*;  
import java.util.ArrayList;  
import java.util.Scanner;  
  
class Contact {  
 private String name;  
 private String phone;  
 private String email;  
  
 public Contact(String name, String phone, String email) {  
 this.name = name;  
 this.phone = phone;  
 this.email = email;  
 }  
  
 public String getName() {  
 return name;  
 }  
  
 public void setName(String name) {  
 this.name = name;  
 }  
  
 public String getPhone() {  
 return phone;  
 }  
  
 public void setPhone(String phone) {  
 this.phone = phone;  
 }  
  
 public String getEmail() {  
 return email;  
 }  
  
 public void setEmail(String email) {  
 this.email = email;  
 }  
  
 @Override  
 public String toString() {  
 return "Name: " + name + ", Phone: " + phone + ", Email: " + email;  
 }  
}  
  
public class ContactManager {  
  
 private static final String *FILE\_NAME* = "contacts.txt";  
 private static ArrayList<Contact> *contacts* = new ArrayList<>();  
  
 public static void loadContacts() {  
 try (BufferedReader reader = new BufferedReader(new FileReader(*FILE\_NAME*))) {  
 String line;  
 while ((line = reader.readLine()) != null) {  
 String[] parts = line.split(",");  
 if (parts.length == 3) {  
 *contacts*.add(new Contact(parts[0], parts[1], parts[2]));  
 }  
 }  
 } catch (IOException e) {  
 System.*out*.println("No existing contacts found. Starting fresh.");  
 }  
 }  
  
 public static void saveContacts() {  
 try (BufferedWriter writer = new BufferedWriter(new FileWriter(*FILE\_NAME*))) {  
 for (Contact contact : *contacts*) {  
 writer.write(contact.getName() + "," + contact.getPhone() + "," + contact.getEmail());  
 writer.newLine();  
 }  
 } catch (IOException e) {  
 System.*out*.println("Error saving contacts: " + e.getMessage());  
 }  
 }  
  
 public static void addContact(Scanner scanner) {  
 System.*out*.print("Enter name: ");  
 String name = scanner.nextLine();  
 System.*out*.print("Enter phone: ");  
 String phone = scanner.nextLine();  
 System.*out*.print("Enter email: ");  
 String email = scanner.nextLine();  
 *contacts*.add(new Contact(name, phone, email));  
 System.*out*.println("Contact added successfully.");  
 *saveContacts*();  
 }  
  
 public static void viewContacts() {  
 if (*contacts*.isEmpty()) {  
 System.*out*.println("No contacts available.");  
 } else {  
 System.*out*.println("Contact List:");  
 for (int i = 0; i < *contacts*.size(); i++) {  
 System.*out*.printf("%d. %s%n", i + 1, *contacts*.get(i));  
 }  
 }  
 }  
  
 public static void editContact(Scanner scanner) {  
 *viewContacts*();  
 if (*contacts*.isEmpty()) return;  
  
 System.*out*.print("Enter the number of the contact to edit: ");  
 int index = scanner.nextInt() - 1;  
 scanner.nextLine(); // consume newline  
  
 if (index >= 0 && index < *contacts*.size()) {  
 Contact contact = *contacts*.get(index);  
 System.*out*.print("Enter new name (leave blank to keep current): ");  
 String name = scanner.nextLine();  
 if (!name.isEmpty()) {  
 contact.setName(name);  
 }  
  
 System.*out*.print("Enter new phone (leave blank to keep current): ");  
 String phone = scanner.nextLine();  
 if (!phone.isEmpty()) {  
 contact.setPhone(phone);  
 }  
  
 System.*out*.print("Enter new email (leave blank to keep current): ");  
 String email = scanner.nextLine();  
 if (!email.isEmpty()) {  
 contact.setEmail(email);  
 }  
  
 System.*out*.println("Contact updated successfully.");  
 *saveContacts*();  
 } else {  
 System.*out*.println("Invalid contact number.");  
 }  
 }  
  
 public static void deleteContact(Scanner scanner) {  
 *viewContacts*();  
 if (*contacts*.isEmpty()) return;  
  
 System.*out*.print("Enter the number of the contact to delete: ");  
 int index = scanner.nextInt() - 1;  
 scanner.nextLine(); // consume newline  
  
 if (index >= 0 && index < *contacts*.size()) {  
 *contacts*.remove(index);  
 System.*out*.println("Contact deleted successfully.");  
 *saveContacts*();  
 } else {  
 System.*out*.println("Invalid contact number.");  
 }  
 }  
  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.*in*);  
 *loadContacts*();  
 int choice;  
  
 do {  
 System.*out*.println("\nContact Manager");  
 System.*out*.println("1. Add Contact");  
 System.*out*.println("2. View Contacts");  
 System.*out*.println("3. Edit Contact");  
 System.*out*.println("4. Delete Contact");  
 System.*out*.println("5. Exit");  
 System.*out*.print("Enter your choice: ");  
 choice = scanner.nextInt();  
 scanner.nextLine(); // consume newline  
  
 switch (choice) {  
 case 1:  
 *addContact*(scanner);  
 break;  
 case 2:  
 *viewContacts*();  
 break;  
 case 3:  
 *editContact*(scanner);  
 break;  
 case 4:  
 *deleteContact*(scanner);  
 break;  
 case 5:  
 System.*out*.println("Exiting Contact Manager. Goodbye!");  
 break;  
 default:  
 System.*out*.println("Invalid choice. Please try again.");  
 }  
 } while (choice != 5);  
  
 scanner.close();  
 }  
}

