Python Assignment - 2
School of Engineering & Technology

Department: SOET	**Session:** 2025-26
Program: MCA (AI & ML)	**Semester:** 1
Course Code: ETCCPP171	College Rollno: 2501940002
Course Name: Programming for Problem Solving Using Python	
Submitted by: Ram Kumar Singh	**Faculty:** Ms. Neha Kaushik

GitHub Link : https://github.com/Ram0kr0singh/Contact_Book_Management_System_0002.git
Assignment: Contact Book Management System

INPUT :-

```
# ------------------------------------------------------------
# Name: Ram Kumar Singh
# Date: 16 Nov 2025
# Assignment 02 - Contact Book Management System
# ------------------------------------------------------------


import csv
import json
from datetime import datetime

CSV_FILE = "contacts.csv"
JSON_FILE = "contacts.json"
LOG_FILE = "error_log.txt"


def log_error(message, operation):
    with open(LOG_FILE, "a") as log:
        timestamp = datetime.now().strftime("%Y-%m-%d %H:%M:%S")
        log.write(f"[{timestamp}] {operation}: {message}\n")


def add_contact():
    try:
        name = input("Enter Name: ").strip()
        phone = input("Enter Phone Number: ").strip()
        email = input("Enter Email Address: ").strip()

        with open(CSV_FILE, "a", newline="") as file:
            writer = csv.writer(file)
            writer.writerow([name, phone, email])

        print("Contact added successfully.\n")

    except Exception as e:
        log_error(str(e), "Add Contact")
        print("Error while adding contact.")
```

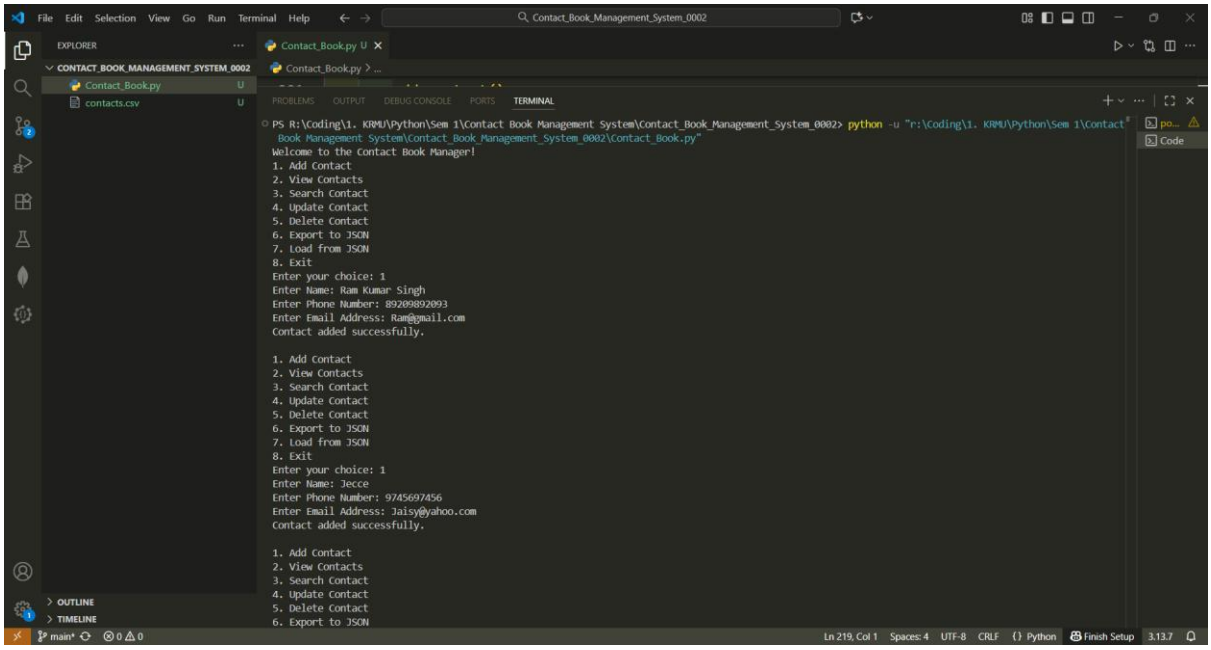
```
def display_contacts():
    try:
        with open(CSV_FILE, "r") as file:
            reader = csv.reader(file)
            contacts = list(reader)

        if not contacts:
            print("No contacts found.\n")
            return

        print("\nName\t\tPhone\t\tEmail")
        print("-" * 50)

        for row in contacts:
            if len(row) == 3:
                name, phone, email = row
                print(f"{name}\t\t{phone}\t\t{email}")

        print()

    except FileNotFoundError:
        log_error("CSV file not found.", "Display Contacts")
        print("No contacts have been saved yet.\n")


def search_contact():
    name_to_search = input("Enter name to search: ").strip()

    try:
        with open(CSV_FILE, "r") as file:
            reader = csv.reader(file)

            for row in reader:
                if len(row) == 3:
                    name, phone, email = row
                    if name.lower() == name_to_search.lower():
                        print(f"\nFound Contact:\nName: {name}\nPhone:
{phone}\nEmail: {email}\n")
                        return

        print("Contact not found.\n")

    except Exception as e:
        log_error(str(e), "Search Contact")
        print("Error searching contact.\n")


def update_contact():
    name_to_update = input("Enter name to update: ").strip()

    try:
        updated = False
        contacts = []

        with open(CSV_FILE, "r") as file:
            reader = csv.reader(file)
```

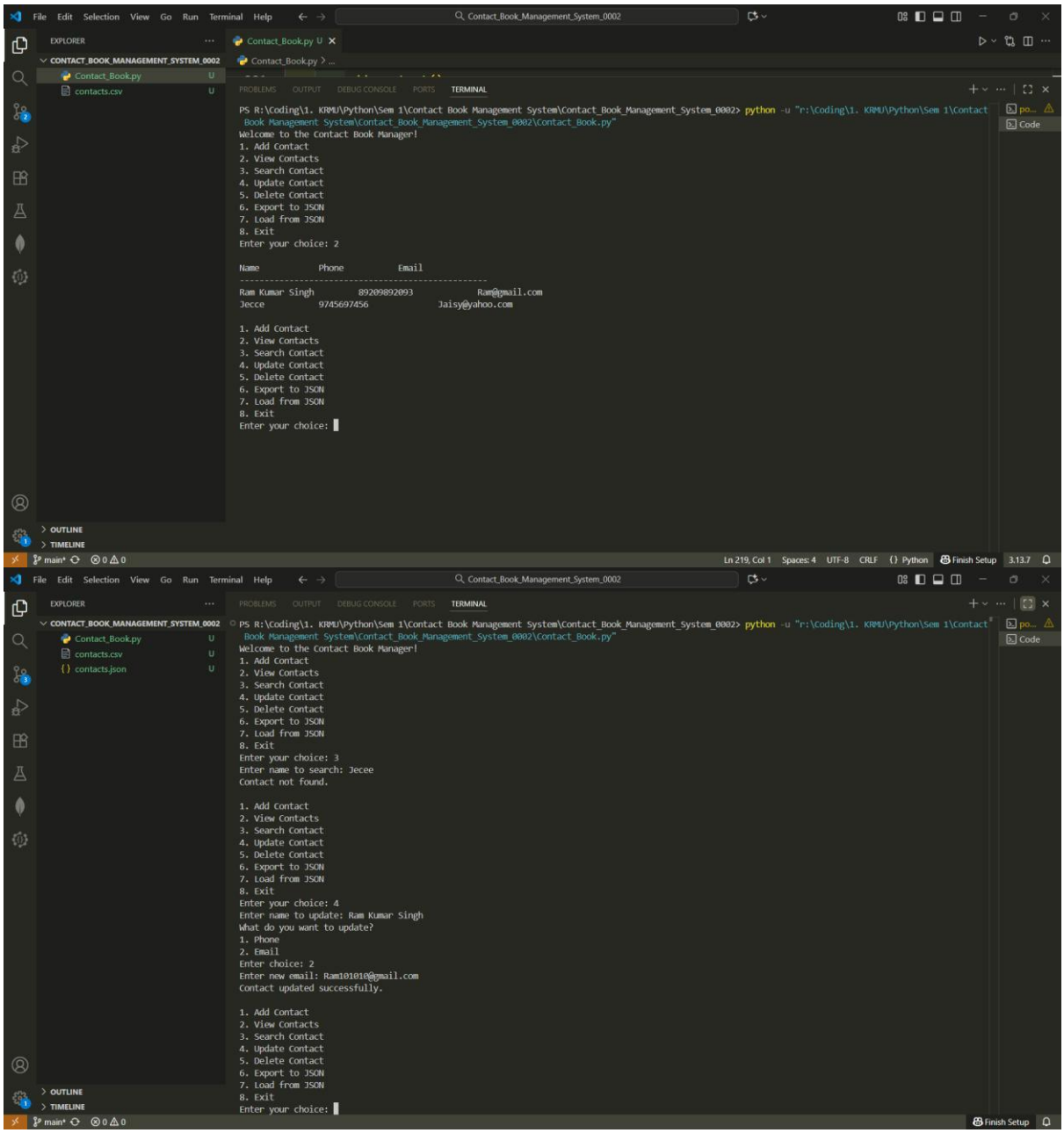
```
            for row in reader:
                contacts.append(row)

        for contact in contacts:
            if len(contact) == 3 and contact[0].lower() ==
name_to_update.lower():
                print("What do you want to update?")
                print("1. Phone")
                print("2. Email")
                choice = input("Enter choice: ")

                if choice == "1":
                    contact[1] = input("Enter new phone: ").strip()
                elif choice == "2":
                    contact[2] = input("Enter new email: ").strip()

                updated = True

        if updated:
            with open(CSV_FILE, "w", newline="") as file:
                writer = csv.writer(file)
                writer.writerows(contacts)
            print("Contact updated successfully.\n")
        else:
            print("Contact not found.\n")

    except Exception as e:
        log_error(str(e), "Update Contact")
        print("Error updating contact.\n")


def delete_contact():
    name_to_delete = input("Enter name to delete: ").strip()

    try:
        contacts = []
        deleted = False

        with open(CSV_FILE, "r") as file:
            reader = csv.reader(file)

            for row in reader:
                if len(row) == 3 and row[0].lower() !=
name_to_delete.lower():
                    contacts.append(row)
                else:
                    if len(row) == 3:
                        deleted = True

        with open(CSV_FILE, "w", newline="") as file:
            writer = csv.writer(file)
            writer.writerows(contacts)

        if deleted:
            print("Contact deleted successfully.\n")
        else:
            print("Contact not found.\n")
```

```
    except Exception as e:
        log_error(str(e), "Delete Contact")
        print("Error deleting contact.\n")


def export_to_json():
    try:
        contacts = []

        with open(CSV_FILE, "r") as file:
            reader = csv.reader(file)
            for row in reader:
                if len(row) == 3:
                    name, phone, email = row
                    contacts.append({"name": name, "phone": phone, "email":
email})

        with open(JSON_FILE, "w") as file:
            json.dump(contacts, file, indent=4)

        print("Contacts exported to JSON successfully.\n")

    except Exception as e:
        log_error(str(e), "Export JSON")
        print("Error exporting to JSON.\n")


def load_from_json():
    try:
        with open(JSON_FILE, "r") as file:
            contacts = json.load(file)

        print("\nContacts from JSON:")
        print("-" * 50)
        for c in contacts:
            print(f"{c['name']}\t{c['phone']}\t{c['email']}")
        print()

    except Exception as e:
        log_error(str(e), "Load JSON")
        print("Error loading JSON.\n")


print("Welcome to the Contact Book Manager!")

while True:
    print("1. Add Contact")
    print("2. View Contacts")
    print("3. Search Contact")
    print("4. Update Contact")
    print("5. Delete Contact")
    print("6. Export to JSON")
    print("7. Load from JSON")
    print("8. Exit")

    choice = input("Enter your choice: ")
```

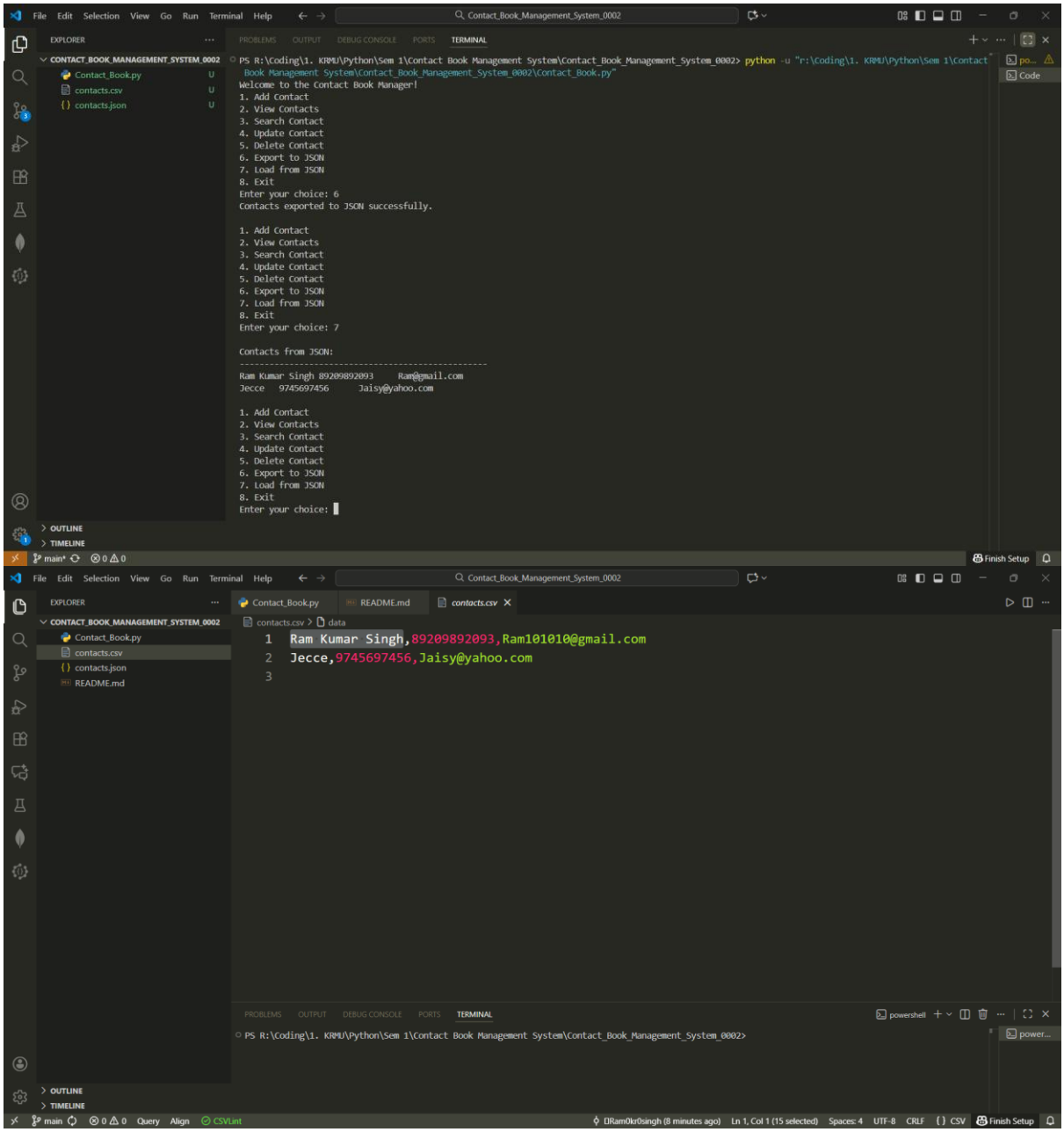
```
if choice == "1":
    add_contact()
elif choice == "2":
    display_contacts()
elif choice == "3":
    search_contact()
elif choice == "4":
    update_contact()
elif choice == "5":
    delete_contact()
elif choice == "6":
    export_to_json()
elif choice == "7":
    load_from_json()
elif choice == "8":
    print("Exiting program.")
    break
else:
    print("Invalid choice. Try again.\n")
```

OUTPUT :-




File Edit Selection View Go Run Terminal Help
Contact_Book_Management_System_0002
EXPLORER
CONTACT_BOOK_MANAGEMENT_SYSTEM_0002
Contact_Book.py U
contacts.csv U
Contact_Book.py U
Contact_Book.py > ...
PROBLEMS OUTPUT DEBUG CONSOLE PORTS TERMINAL
PS R:\Coding\1. KRMU\Python\Sem 1\Contact Book Management System\Contact_Book_Management_System_0002> python -u "r:\Coding\1. KRMU\Python\Sem 1\Contact Book Management System\Contact_Book_Management_System_0002\Contact_Book.py"
Welcome to the Contact Book Manager!
1. Add Contact
2. View Contacts
3. Search Contact
4. Update Contact
5. Delete Contact
6. Export to JSON
7. Load from JSON
8. Exit
Enter your choice: 2
Name Phone Email
Ram Kumar Singh 89209892093 Ram@gmail.com
Jecce 9745697456 Jaisy@yahoo.com
1. Add Contact
2. View Contacts
3. Search Contact
4. Update Contact
5. Delete Contact
6. Export to JSON
7. Load from JSON
8. Exit
Enter your choice:
OUTLINE
TIMELINE
main*
Ln 219, Col 1 Spaces: 4 UTF-8 CRLF Python Finish Setup 3.13.7

File Edit Selection View Go Run Terminal Help
Contact_Book_Management_System_0002
EXPLORER
CONTACT_BOOK_MANAGEMENT_SYSTEM_0002
Contact_Book.py U
contacts.csv U
contacts.json U
PROBLEMS OUTPUT DEBUG CONSOLE PORTS TERMINAL
PS R:\Coding\1. KRMU\Python\Sem 1\Contact Book Management System\Contact_Book_Management_System_0002> python -u "r:\Coding\1. KRMU\Python\Sem 1\Contact Book Management System\Contact_Book_Management_System_0002\Contact_Book.py"
Welcome to the Contact Book Manager!
1. Add Contact
2. View Contacts
3. Search Contact
4. Update Contact
5. Delete Contact
6. Export to JSON
7. Load from JSON
8. Exit
Enter your choice: 3
Enter name to search: Jecee
Contact not found.
1. Add Contact
2. View Contacts
3. Search Contact
4. Update Contact
5. Delete Contact
6. Export to JSON
7. Load from JSON
8. Exit
Enter your choice: 4
Enter name to update: Ram Kumar Singh
What do you want to update?
1. Phone
2. Email
Enter choice: 2
Enter new email: Ram101010@gmail.com
Contact updated successfully.
1. Add Contact
2. View Contacts
3. Search Contact
4. Update Contact
5. Delete Contact
6. Export to JSON
7. Load from JSON
8. Exit
Enter your choice:
OUTLINE
TIMELINE
main*
Finish Setup


File Edit Selection View Go Run Terminal Help
Contact_Book_Management_System_0002
EXPLORER
CONTACT_BOOK_MANAGEMENT_SYSTEM_0002
Contact_Book.py U
contacts.csv U
contacts.json U
PROBLEMS OUTPUT DEBUG CONSOLE PORTS TERMINAL
PS R:\Coding\1. KRMU\Python\Sem 1\Contact Book Management System\Contact_Book_Management_System_0002> python -u "r:\Coding\1. KRMU\Python\Sem 1\Contact Book Management System\Contact_Book_Management_System_0002\Contact_Book.py"
Welcome to the Contact Book Manager!
1. Add Contact
2. View Contacts
3. Search Contact
4. Update Contact
5. Delete Contact
6. Export to JSON
7. Load from JSON
8. Exit
Enter your choice: 6
Contacts exported to JSON successfully.
1. Add Contact
2. View Contacts
3. Search Contact
4. Update Contact
5. Delete Contact
6. Export to JSON
7. Load from JSON
8. Exit
Enter your choice: 7
Contacts from JSON:
Ram Kumar Singh 89209892093 Ram@gmail.com
Jecce 9745697456 Jaisy@yahoo.com
1. Add Contact
2. View Contacts
3. Search Contact
4. Update Contact
5. Delete Contact
6. Export to JSON
7. Load from JSON
8. Exit
Enter your choice:
OUTLINE
TIMELINE
main*
Finish Setup

File Edit Selection View Go Run Terminal Help
Contact_Book_Management_System_0002
EXPLORER
CONTACT_BOOK_MANAGEMENT_SYSTEM_0002
Contact_Book.py
contacts.csv
contacts.json
README.md
Contact_Book.py
README.md
contacts.csv
contacts.csv > data
1 Ram Kumar Singh,89209892093,Ram101010@gmail.com
2 Jecce,9745697456,Jaisy@yahoo.com
3
PROBLEMS OUTPUT DEBUG CONSOLE PORTS TERMINAL
powershell
PS R:\Coding\1. KRMU\Python\Sem 1\Contact Book Management System\Contact_Book_Management_System_0002>
OUTLINE
TIMELINE
main
Query
Align
CSVLint
Ln 1, Col 1 (15 selected)
Spaces: 4
UTF-8
CRLF
CSV
Finish Setup