UNIVERSITI TEKNOLOGI MARA

Cawangan Kedah
Kampus Sungai Petani

UNIVERSITI TEKNOLOGI MARA

KEDAH BRANCH

SCHOOL OF INFORMATION SCIENCE

COLLEGE OF COMPUTING, INFORMATICS AND MATHEMATICS

DIPLOMA IN INFORMATICS LIBRARY

(CDIM144)

ASSIGNMENT INDIVIDUAL: CAR BOOKING SYSTEM

IML 208: PROGRAMMING FOR LIBRARIES

PREPARED BY:

MUHAMMAD HAFIZI BIN MOHAMAD NASIR (2023832138)

GROUP KCDIM144 3E

PREPARED FOR:

SIR MOHD FIRDAUS BIN MOHD HELMI

SUBMISSION DATE:

WEEK 10

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STUDENT PLEDGE OF ACADEMIC INTEGRITY

As a student of Universiti Teknologi MARA (UiTM), it is my responsibility to act in accordance with UiTM's academic assessment and evaluation policy. I hereby pledge to act and uphold academic integrity and pursue scholarly activities in UiTM with honesty and responsible manner. I will not engage or tolerate acts of academic dishonesty, academic misconduct, or academic fraud including but not limited to:

a. **Cheating:** Using or attempt to use any unauthorized device, assistance, sources, practice or materials while completing academic assessments. This include but not limited to copying from another, allowing others to copy, unauthorized collaboration on an assignment or open book tests, or engaging in any act or conduct that can be construed as cheating.
b. **Plagiarism:** Using or attempts to use the work of others (ideas, design, words, art, music, etc.) without acknowledging the source; using or purchasing materials prepared by another person or agency or engaging in other behavior that a reasonable person would consider as plagiarism.
c. **Fabrication:** Falsifying data, information, or citations in any academic assessment and evaluation.
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e. **Furnishing false information:** Providing false information or false representation to any UiTM official, instructor, or office.

With this pledge, I am fully aware that I am obliged to conduct myself with utmost honesty and integrity. I fully understand that a disciplinary action can be taken against me if I, in any manner, violate this pledge.

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Course Code : IML208
Programme Code :-
Faculty / Campus : UiTM Kampus Sungai Petani

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Lastly, I would like to thank my family especially my parents who support me until I accomplish this assignment. Although they were being apart from me, they continued to provide support and motivation so that I would not give up easily when complete this assignment. Without their motivation and support, I do not think I can complete this assignment smoothly.

Project Name: Car Booking System

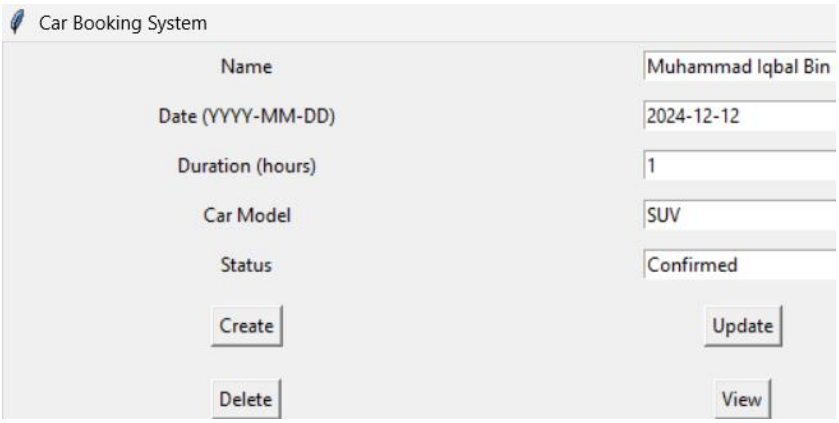
File name: carbooking.py

Prompt Data:

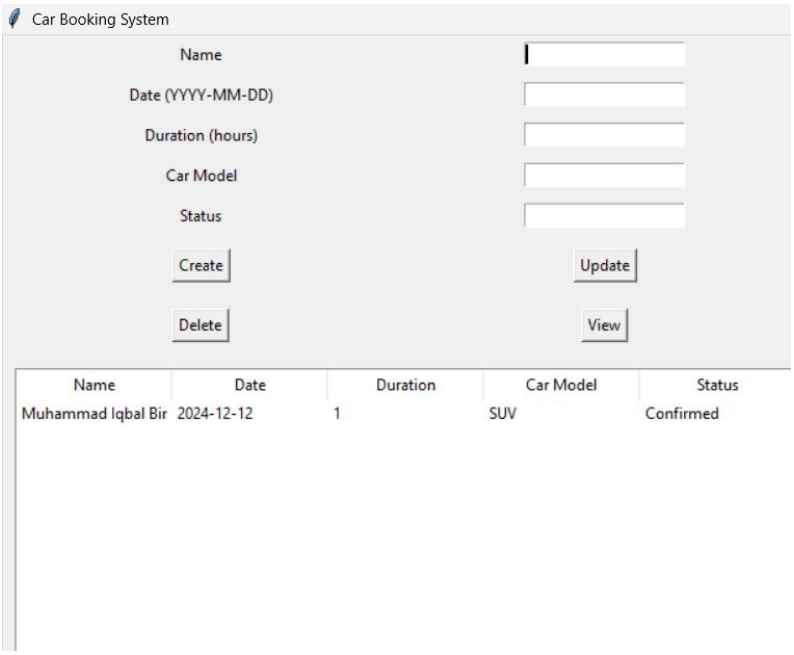
1. Name
2. Date
3. Duration
4. Car Model
5. Booking status

Functions:

1. Create the data:

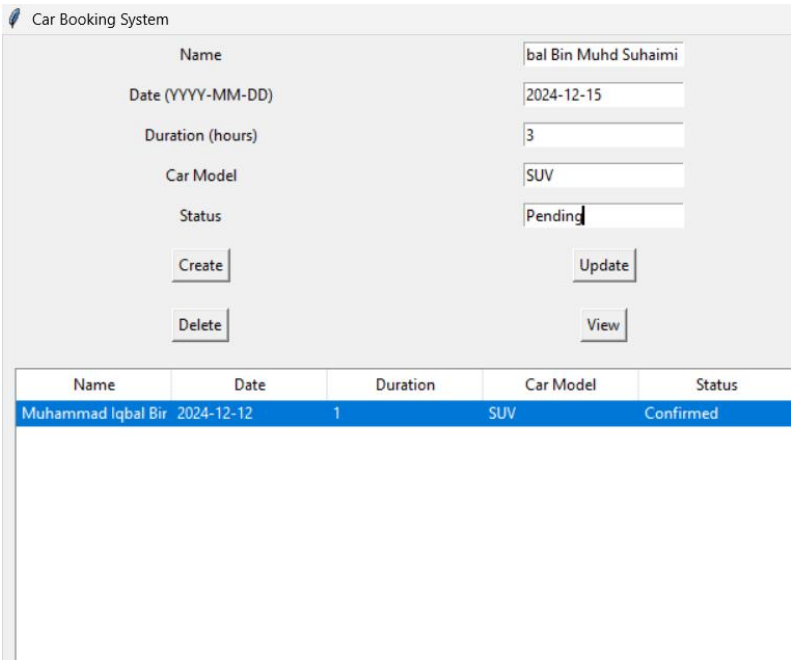


2. Read the data:

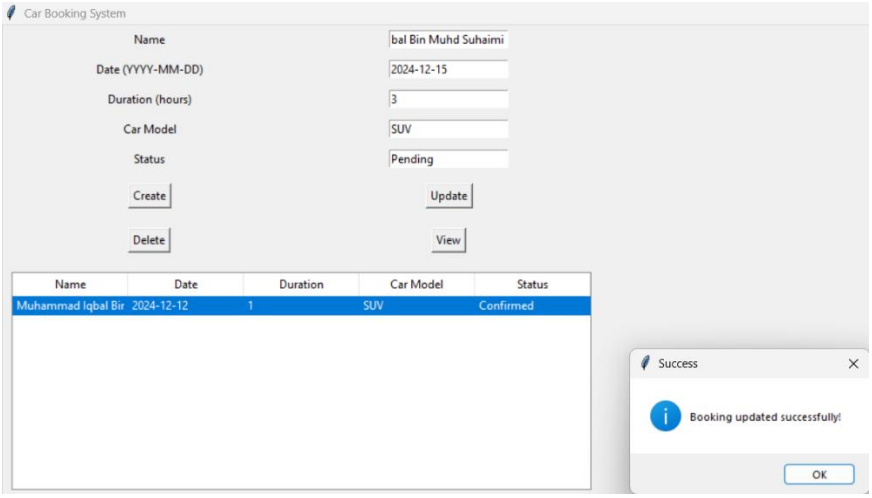


3. Update the data:

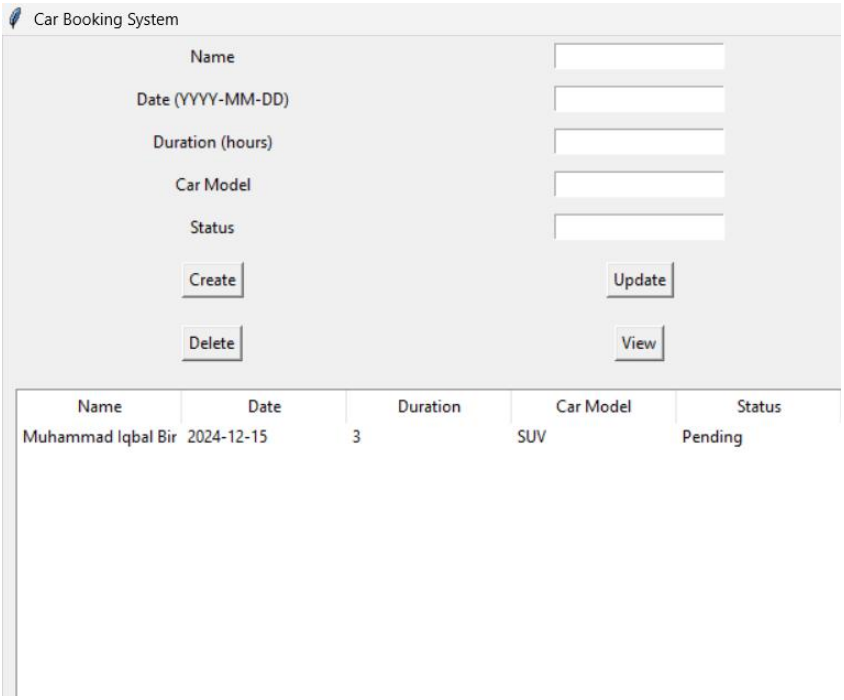
Before update the data of customer that booking the car



Booking update successfully

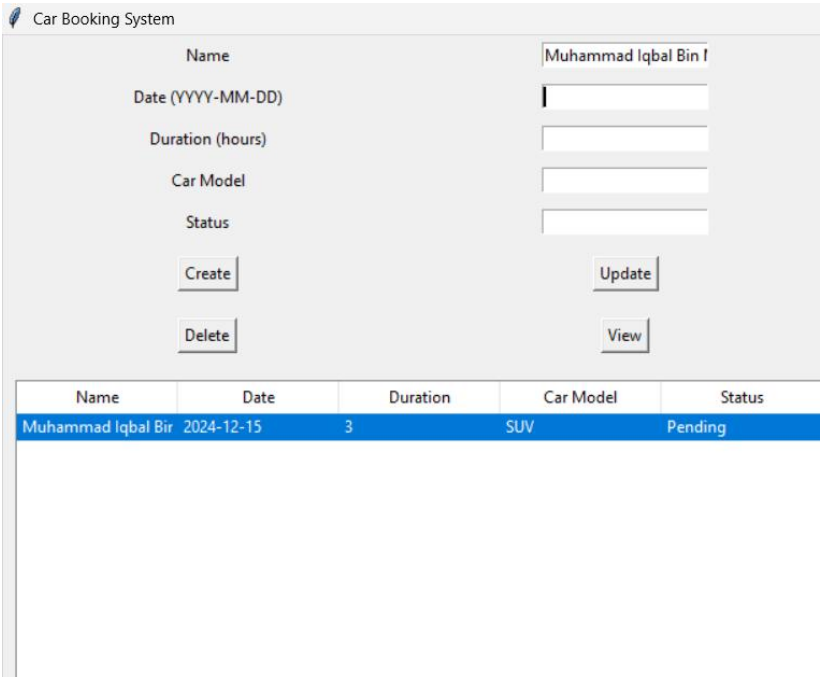


After update the data of customer borrowed days

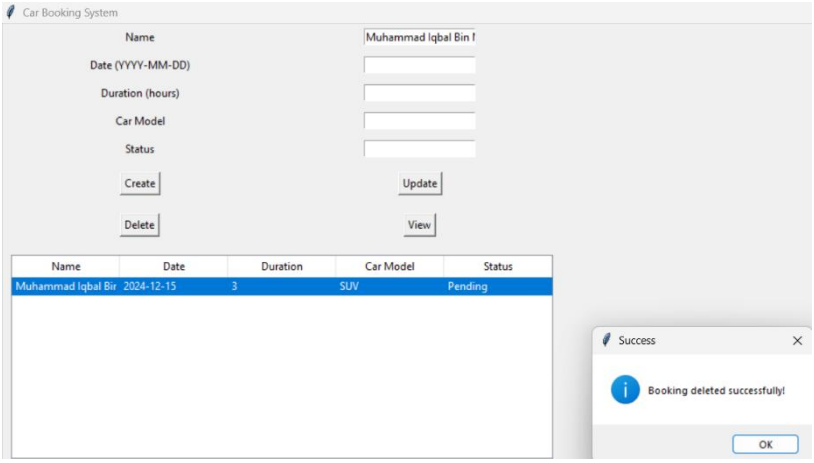


4. Delete the data:

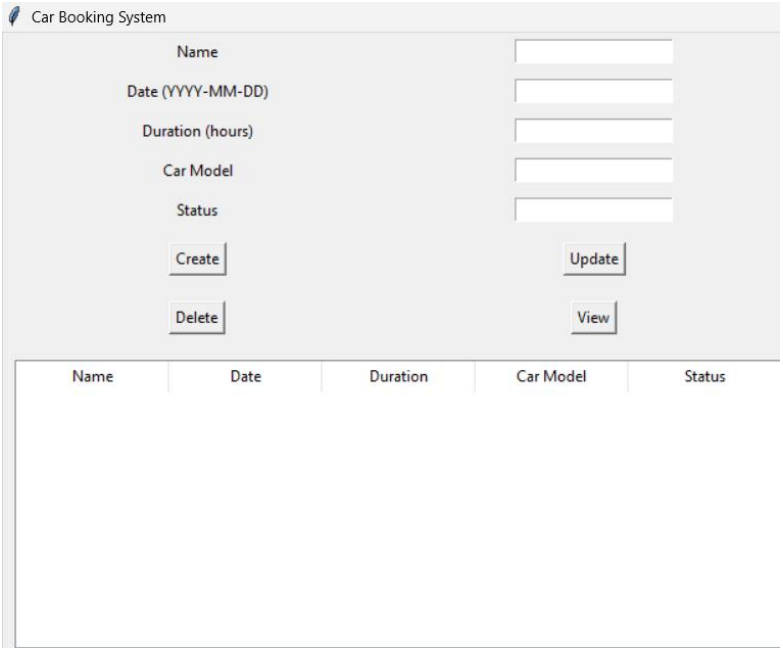
Before delete the data



Booking cancels successfully



No booking is available

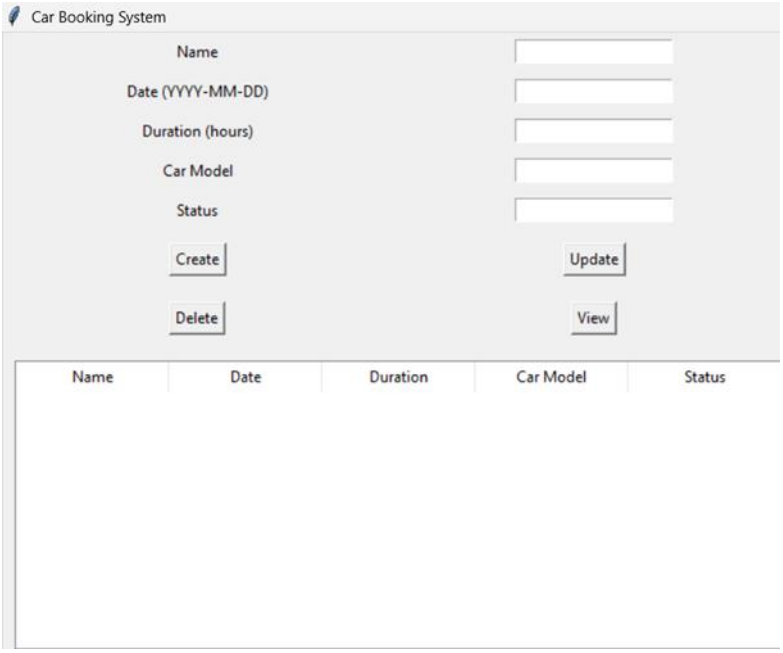


Conditional Statements: Yes

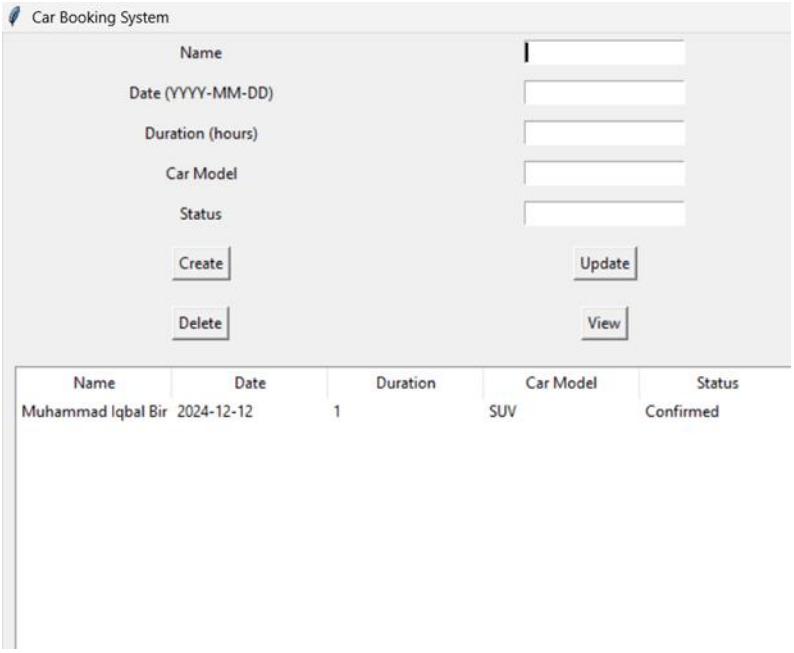
If, Elif & Else:

```
# Main function to prompt user inputs
def main():
    while True:
        action = input("Choose an action (Create, Read, Update, Delete, Exit): ").lower()
        if action == 'create':
            name = input("Enter name: ")
            date = input("Enter date (YYYY-MM-DD): ")
            duration = input("Enter duration (hours): ")
            car_model = input("Enter car model: ")
            booking_status = input("Enter booking_status: ")
            create_data(name, date, duration, car_model, booking_status)
        elif action == 'read':
            read_data()
        elif action == 'update':
            name = input("Enter name to update: ")
            new_data = {}
            new_data['date'] = input("Enter new date (YYYY-MM-DD): ")
            new_data['duration'] = input("Enter new duration (hours): ")
            new_data['car_model'] = input("Enter new car model: ")
            new_data['booking_status'] = input("Enter new booking_status: ")
            update_data(name, new_data)
        elif action == 'delete':
            name = input("Enter name to delete: ")
            delete_data(name)
        elif action == 'exit':
            break
        else:
            print("Invalid action. Please choose again.")
```

GUI: Yes



Result: Screenshot



Strengths:

1. **Simple and Straightforward Implementation**:
    - The code is easy to read and understand, which makes it accessible for beginners and easier to maintain.
2. **Modular Design**:
    - By dividing the functionality into distinct functions (create_data, read_data, update_data, and delete_data), the code is well-organized and modular. This enhances readability and makes it easier to debug and extend.
3. **Data Storage**:
    - Using JSON for data storage is a practical choice as it is lightweight, human-readable, and easy to parse. It also allows for easy integration with other systems that use JSON.
4. **User Interaction**:
    - The main function provides a simple command-line interface for users to interact with the system. This allows for easy testing and use without requiring a graphical user interface (GUI).

Kaizen (Room for Improvement)

1. **Error Handling**:
    - **Current Status**: The code does not handle potential errors such as invalid input, file access issues, or JSON parsing errors.
    - **Improvement**: Implement error handling using try-except blocks to manage these potential issues gracefully.
2. **Data Validation**:
    - **Current Status**: There is no validation of user inputs, which can lead to incorrect or inconsistent data.
    - **Improvement**: Add validation checks to ensure that inputs are valid (e.g., date format, non-empty fields).
3. **GUI Implementation**:
    - **Current Status**: The system relies on a command-line interface.
    - **Improvement**: Create a graphical user interface using libraries like Tkinter or PyQt to enhance user experience and make the system more user-friendly.
4. **Search and Filter Functionality**:
    - **Current Status**: The code does not provide options to search or filter bookings.
    - **Improvement**: Implement search and filter functionality to allow users to find specific bookings more easily.