



اَوْنِيُوْسَيتِي تِيكْنُوْلُوْجِي مَارَا  
UNIVERSITI  
TEKNOLOGI  
MARA

**SCHOOL OF INFORMATION SCIENCE  
COLLEGE OF COMPUTING, INFORMATICS AND MATHEMATICS  
UNIVERSITI TEKNOLOGI MARA**

**DIPLOMA IN INFORMATICS LIBRARY  
(CDIM144)**

**PROGRAMMING FOR LIBRARIES  
(IML208)**

**INDIVIDUAL ASSIGNMENT:  
AIRBNB BOOKING SYSTEM**

**PREPARED BY:**  
IMAN QISTINA BINTI MOHD ISMAIL (2023414116)  
KCDIM1443E

**PREPARED FOR:**  
MOHD FIRDAUS BIN MOHD HELMI

**SUBMISSION DATE:**  
18 DECEMBER 2024

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**PREPARED BY:**  
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IM144 - DIPLOMA IN INFORMATICS LIBRARY  
SCHOOL OF  
COMPUTING, INFORMATICS AND MATHEMATICS  
UNIVERSITI TEKNOLOGI MARA (UiTM)  
KEDAH BRANCH

## ACKNOWLEDGEMENT

Assalamualaikum,

Alhamdulillah, I would like to thank God for giving me the strength to complete the assignment smoothly. And because of His grace, I was encouraged to continue the assignment until succeed.

Me, students from CDIM144 Library Informatics would like to show my gratitude to my course instructor, Mohd Firdaus Bin Mohd Helmi for giving me great guidance and entire attention for this assignment. Without her guidance, I definitely could not even finish this assignment completely by myself.

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NAME: IMAN QISTINA BINTI MOHD ISMAIL

MATRIC NUMBER: 2023414116

COURSE CODE: IML208

PROGRAMME CODE: CDIM144

CLASS: CDIM144 3



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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.
- d. **Deception:** Providing false information with intend to deceive an instructor concerning any academic assessment and evaluation.
- 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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NAME: IMAN QISTINA BINTI MOHD ISMAIL  
MATRIC NUMBER: 2023414116  
COURSE CODE: IML208  
PROGRAMME CODE: CDIM144  
CLASS: CDIM14

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**Project Name:** Airbnb Booking System

**File Name:** Airbnb\_book.py

**Prompt Data:**

- i. **Guest Name** – Name of the guest booking the room.
- ii. **Check-in Date** – Start date of the stay (format: YYYY-MM-DD).
- iii. **Check-out Date** – End date of the stay (format: YYYY-MM-DD).
- iv. **Room – Room identifier** (example: C2-A, D4-B).
- v. **Price Details:**
  - **Base Price** – Price per night for the room.
  - **Discount Rate** – Percentage discount applicable (0.1 for 10%).
  - **Tax Rate** – Percentage tax applied on the final price

**Function:**

i. **Create Data** –

- Allows users to add a new booking with all required details:
- Guest Name, Room, Check-in, Check-out, Base Price, Discount Rate, Tax Rate.
- Validates that the Check-out Date is after the Check-in Date.
- Automatically calculates number of nights and assigns a unique ID.

ii. **Read Data** –

- Displays all existing bookings in a listbox.
- Shows total price calculated using the formula:
- $\text{Final Price} = \text{Base Price} \times \text{Nights} \times (1 - \text{Discount}) \times (1 + \text{Tax})$

iii. **Update Data** –

- Allows updating details for an existing booking by specifying the booking ID.
- Updates guest name, room, dates, price, and recalculates nights.

iv. **Delete Existing Data** –

- Deletes a booking from the list by entering the booking ID.

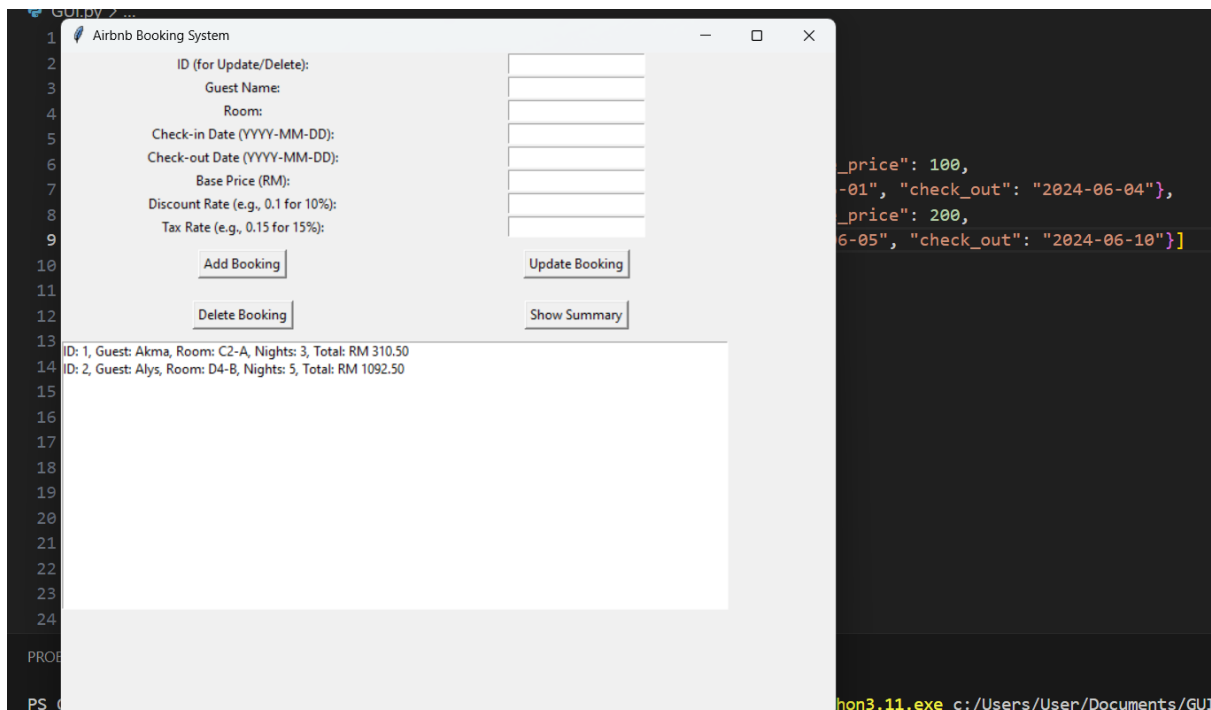
## Conditional Statement:

Yes

- Uses if, elif, and else conditions to:
- Validate date inputs.
- Ensure proper ID matching for updating or deleting bookings.
- Check that numeric inputs (price, tax, discount) are valid.

## GUI:

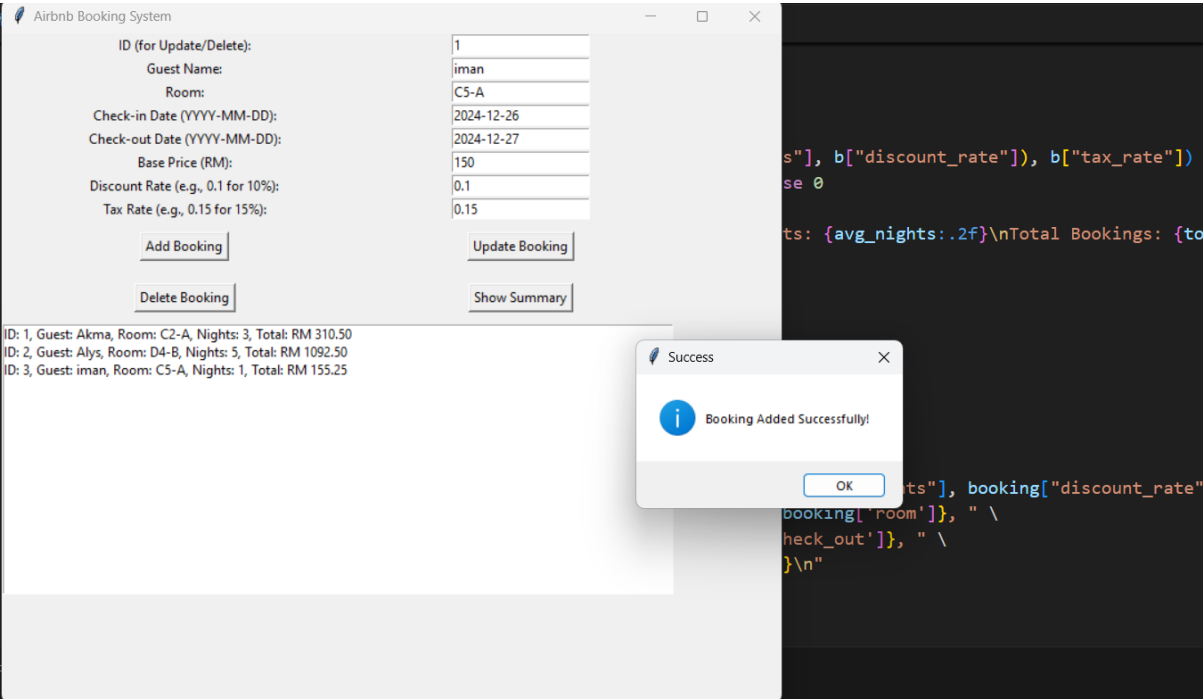
Yes.



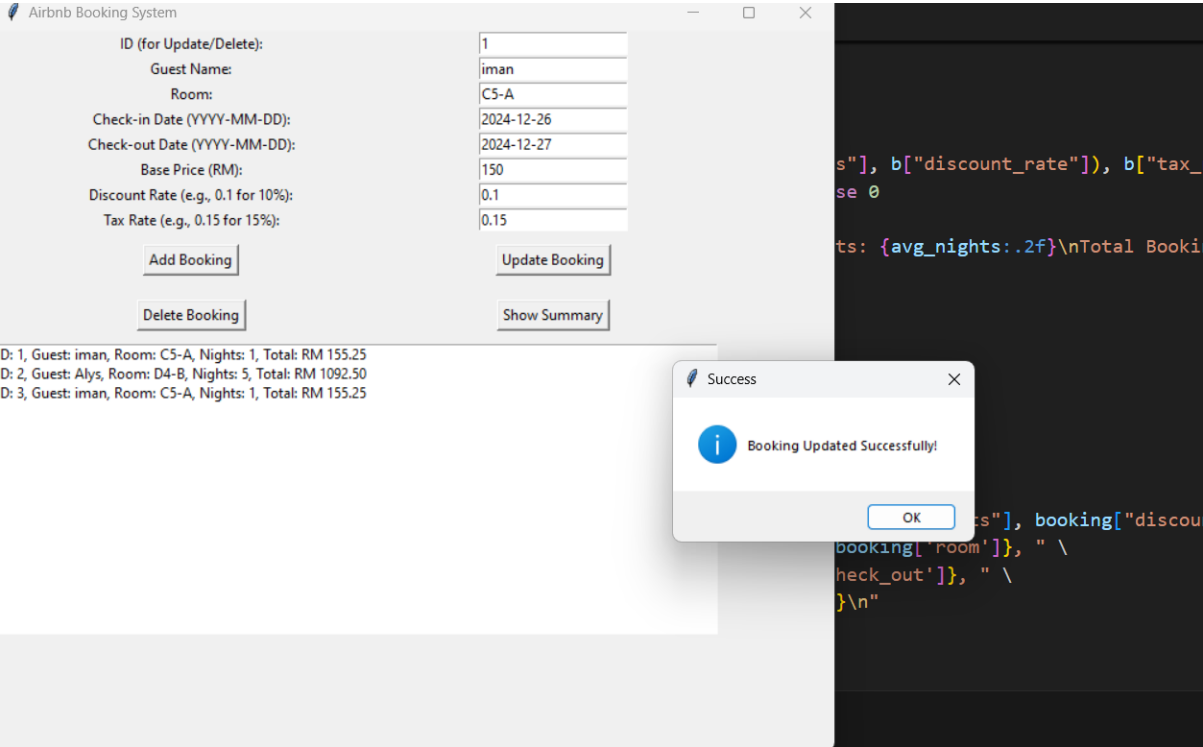
- Built using Tkinter.
- GUI Components Include:
  - **Labels and Entries:** Input fields for guest details, room, dates, and prices.
  - **Buttons:**
    - Add Booking
    - Update Booking
    - Delete Booking
    - Show Summary
  - **Listbox:** Displays a summary of all current bookings (ID, guest name, room, nights, and total price).
  - **Messagebox Alerts:** Inform the user of successes ("Booking Added Successfully") or errors (invalid inputs).

Result:

(i) Add Booking

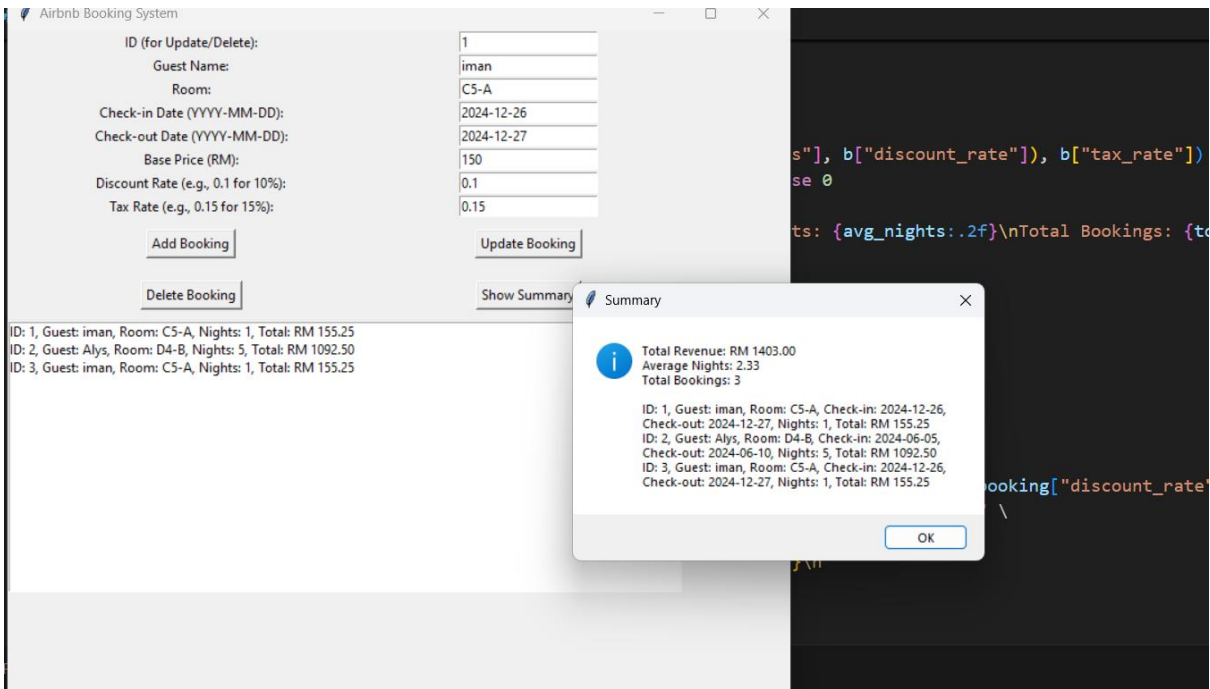


(ii) Update Booking

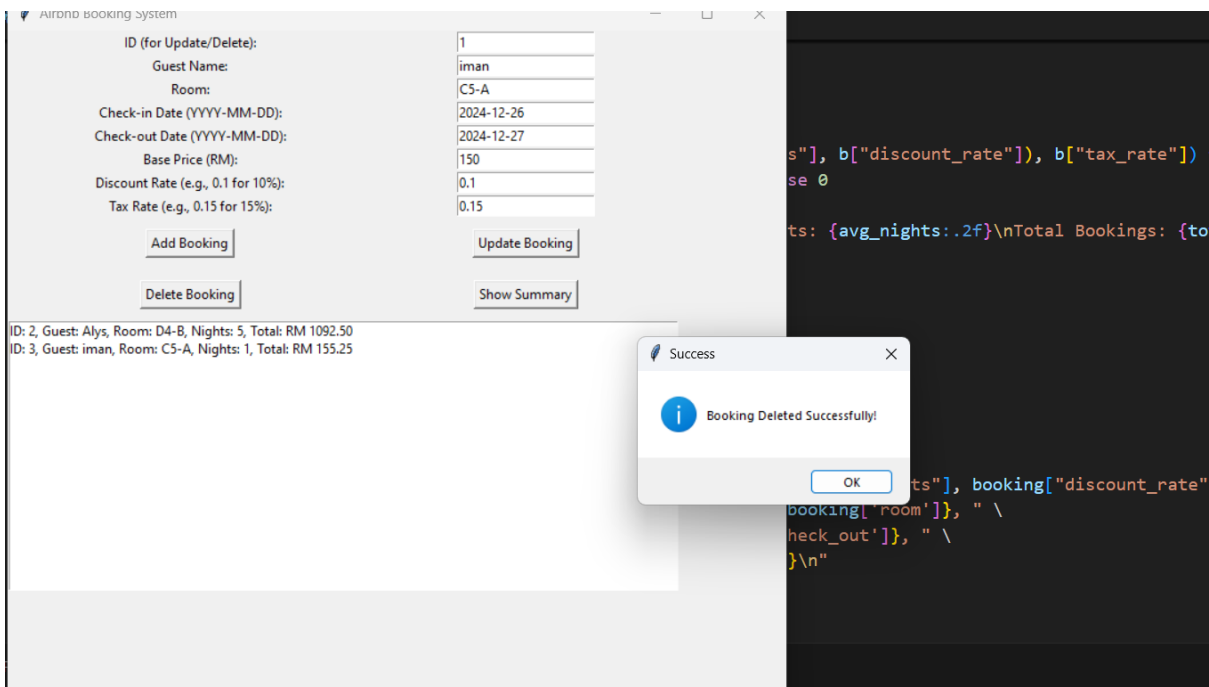




(iii) Show Summary



(iv) Delete Booking



**Strength:**

1. **User-Friendly** – Simple and clear interface with all functionalities accessible via buttons.
2. **Dynamic Calculations** – Automatic price, tax, and discount calculations.
3. **CRUD Operations** – Full implementation for creating, reading, updating, and deleting bookings.
4. **Real-time Summary** – Shows total revenue, average nights, and detailed booking information.

**Kaizen (Room for Improvement)**

1. **Data Persistence –**
  - Save bookings to a file (CSV, JSON, or database) to retain data between sessions.
  - Load bookings automatically when the application starts.
2. **Input Validation Enhancements –**
  - Restrict inputs to valid dates and numeric fields (Use date pickers or numeric validation).
3. **Improved UI –**
  - Add better styling, window resizing, and navigation (scrollbars, tabs).
4. **Advanced Features –**
  - Add a search/filter feature for bookings.
  - Include reports or visual charts for revenue analysis.
  - Add guest contact information for a more complete record.