



COLLEGE OF COMPUTING, INFORMATICS AND MATHEMATICS

UNIVERSITI TEKNOLOGI MARA

MERBOK, KEDAH

DIPLOMA IN LIBRARY MANAGEMENT

(CDIM144)

PROGRAMMING FOR LIBRARIES

(IML208)

ASSESSMENT 1:

INDIVIDUAL ASSIGNMENT : SPORT ARENA BOOKING

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KCDIM1443E

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ASSIGNMENT 1: SPORT ARENA BOOKING

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UNIVERSITI TEKNOLOGI MARA (UiTM) CAWANGAN KEDAH

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Programme code: IML 207

Faculty / Campus: College of Computing, Informatics And Mathematics

ACKNOWLEDGEMENT

Assalamualaikum w.b.t,

In the name of Allah, the Most Gracious and the Most Merciful.

All praises to Allah and His blessing for the completion of this assignment. We thank God for all the opportunities, trials, and strength that have been showered on us to complete this assignment. And our humblest gratitude to the holy Prophet Muhammad (Peace be upon him) whose way of life has been a continuous guide for us.

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My deepest gratitude goes to all my family members. Because it would not have been possible to complete this assignment without their support. Also, I am deeply thankful to them because they always support me spiritually throughout my life when I have a problem.

Then, I would sincerely like to thank all my beloved classmates who were with me and supported me through thick and thin.

May God shower the above-cited personalities with success and honor in their life.

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Project Name: Sport Arena Booking System

File name: sportarenabookingGUI.py

Prompt Data:

i. Name

- Represents the name of the facility (e.g., "Basketball Court," "Tennis Court").
- Used as a unique identifier for each facility to avoid duplication.

ii. Date

- Refers to the date and time input for bookings.
- Users must provide both start and end times in the format YYYY-MM-DD HH:MM.

iii. Hourly Rate

- The cost per hour for booking a facility.
- This value is set or updated for each facility and is used to calculate the total booking cost.

iv. User

- Represents the name of the person booking the facility.
- This is used to track who made a specific booking.

v. Start Time / End Time

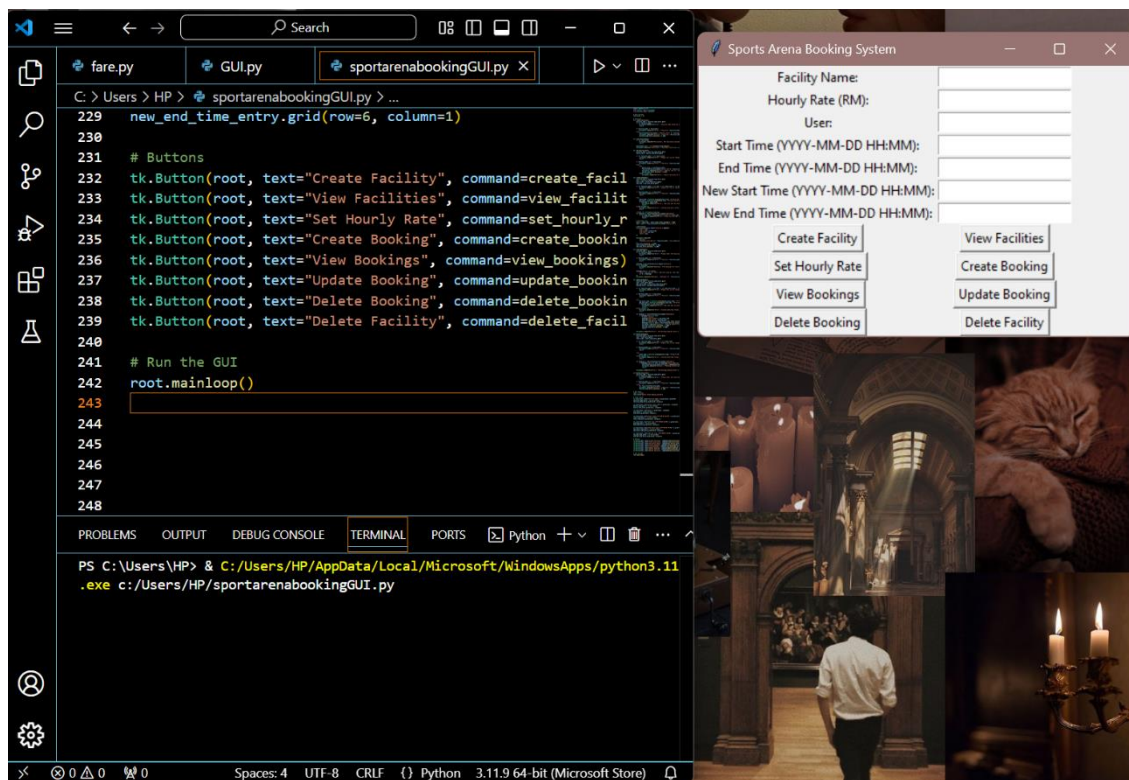
- Specifies the booking duration.
- The system validates that the end time is after the start time and checks for overlapping bookings.

Function:

- i. Create Facility (Adds a new facility with an initial hourly rate and no bookings.)
- ii. Read/View Facilities (Displays a list of all available facilities.)
- iii. Set Hourly Rate (Updates the hourly rate for a specific facility.)
- iv. Create Booking (Allows users to book a facility within a specified time, ensuring no overlapping bookings.)
- v. View Bookings (Displays all bookings for a selected facility, including user, start time, end time, and cost.)
- vi. Update Booking (Modifies an existing booking by updating the time or user details.)
- vii. Delete Booking (Deletes a specific booking based on user and start time.)
- viii. Delete Facility (Removes a facility and its associated bookings.)

Conditional Statement: Yes (If, Elif, & Else) (Used to validate inputs, check for overlapping bookings, and ensure proper facility management.)

GUI: Yes

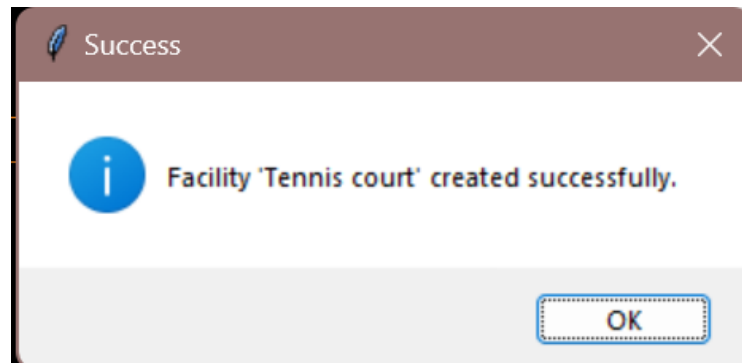


Result:

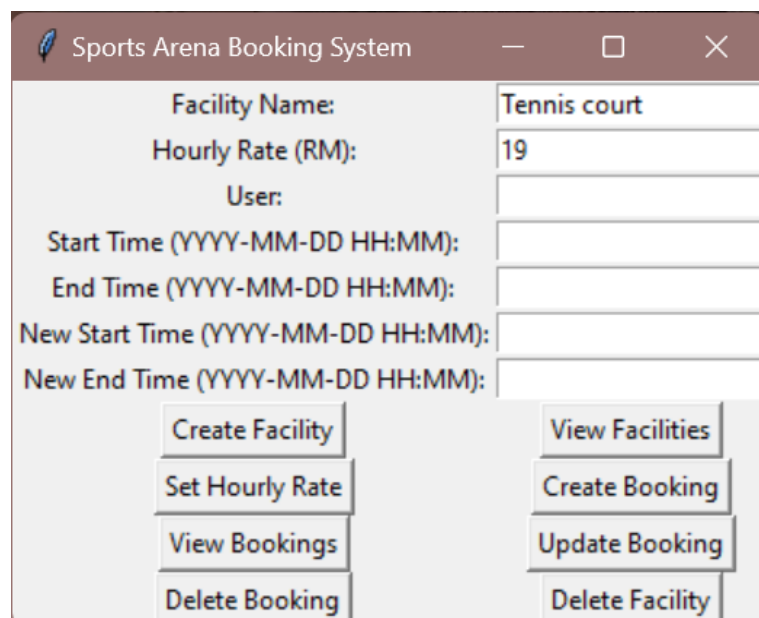
1. Create Facility:

The screenshot shows the 'Sports Arena Booking System' GUI. The 'Facility Name' field is filled with 'Tennis court'. The 'Hourly Rate (RM):', 'User:', 'Start Time (YYYY-MM-DD HH:MM):', 'End Time (YYYY-MM-DD HH:MM):', 'New Start Time (YYYY-MM-DD HH:MM):', and 'New End Time (YYYY-MM-DD HH:MM):' fields are empty. The buttons 'Create Facility', 'View Facilities', 'Set Hourly Rate', 'Create Booking', 'View Bookings', 'Update Booking', 'Delete Booking', and 'Delete Facility' are visible.

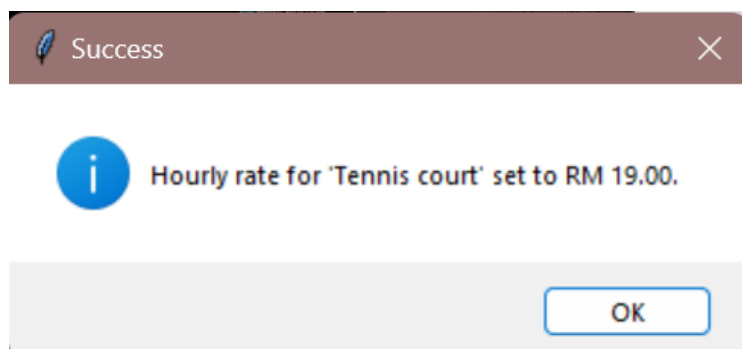
1.1 The result:



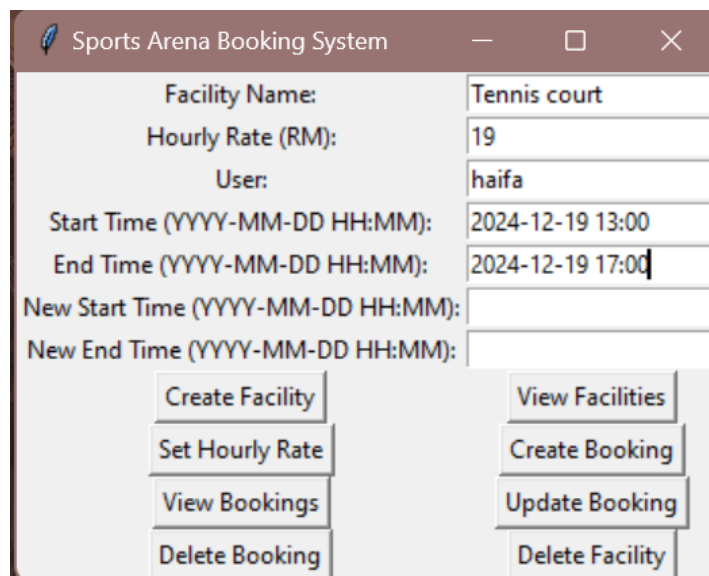
2. Set hourly rate



2.1. The result



3. Create Booking:



The screenshot shows a window titled "Sports Arena Booking System" with a standard Windows title bar (minimize, maximize, close buttons). The window contains a form with the following fields and values:

Field	Value
Facility Name:	Tennis court
Hourly Rate (RM):	19
User:	haifa
Start Time (YYYY-MM-DD HH:MM):	2024-12-19 13:00
End Time (YYYY-MM-DD HH:MM):	2024-12-19 17:00
New Start Time (YYYY-MM-DD HH:MM):	
New End Time (YYYY-MM-DD HH:MM):	

Below the form fields are two columns of buttons:

- Left column: Create Facility, Set Hourly Rate, View Bookings, Delete Booking
- Right column: View Facilities, Create Booking, Update Booking, Delete Facility

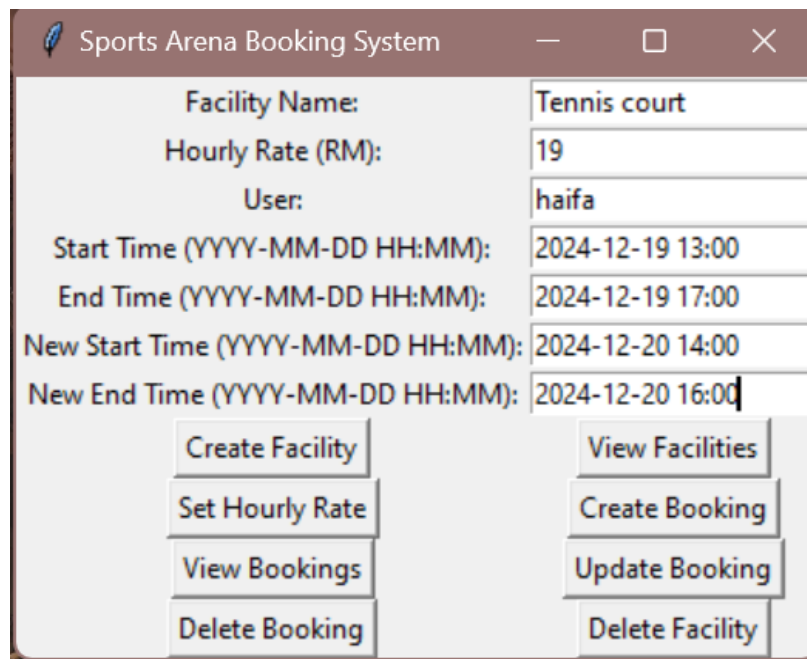
3.1. The result:



4. View Bookings:



5. Update Booking:



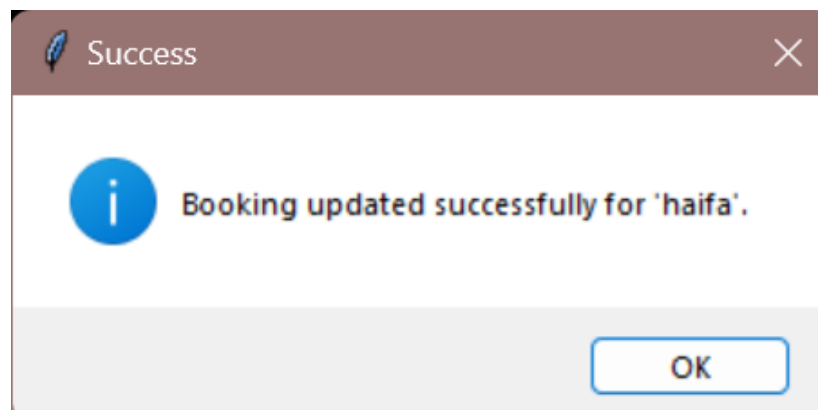
The screenshot shows a window titled "Sports Arena Booking System". It contains a form with the following fields and values:

Field	Value
Facility Name:	Tennis court
Hourly Rate (RM):	19
User:	haifa
Start Time (YYYY-MM-DD HH:MM):	2024-12-19 13:00
End Time (YYYY-MM-DD HH:MM):	2024-12-19 17:00
New Start Time (YYYY-MM-DD HH:MM):	2024-12-20 14:00
New End Time (YYYY-MM-DD HH:MM):	2024-12-20 16:00

Below the form are two columns of buttons:

- Left column: Create Facility, Set Hourly Rate, View Bookings, Delete Booking
- Right column: View Facilities, Create Booking, Update Booking, Delete Facility

5.1. The result:



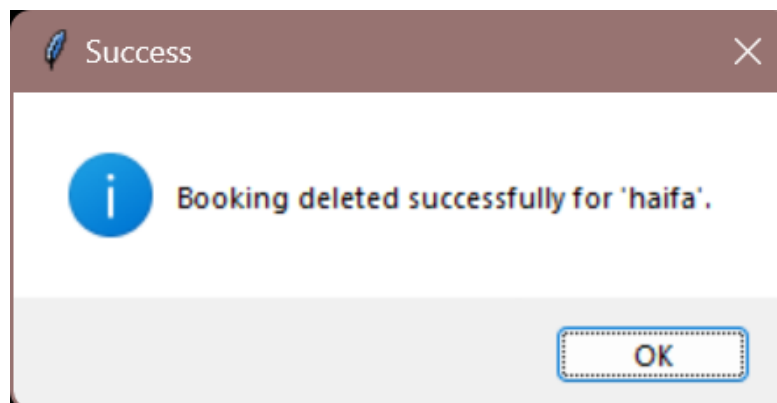
6. List all bookings:





You can view a list of all appointments, including their scheduled dates. Appointments will remain in the system unless you choose to delete them

8. Delete booking:



You can delete an appointment by providing all the details.

Strength:

1. **User-Friendly Interface:** Simple and intuitive GUI for managing facilities and bookings.
2. **Validation:** Ensures input fields are not left empty and validates time formats to avoid errors.
3. **Overlapping Prevention:** Prevents double bookings by checking for time conflicts.
4. **Dynamic Cost Calculation:** Calculates booking costs accurately based on the duration and facility's hourly rate.
5. **Modular Functions:** Well-organized functions for creating, reading, updating, and deleting data.

Kaizen (Room for improvement):

1. Data Persistence:

- Save facilities and bookings to a file (e.g., CSV, JSON) or a database to retain data after closing the program.
- Implement a feature to load saved data on startup.

2. Enhanced Search and Filter:

- Add a search function to filter bookings by facility, user, or date.
- Provide sorting options (e.g., by cost, start time, or user).

3. **Improved UI Design:**

- Use frames and styling to organize the GUI layout for better readability.
- Add a calendar widget for selecting dates and times instead of manual input.

4. **Reporting Features:**

- Generate summary reports for bookings, including total revenue per facility.
- Export reports to Excel or PDF for record-keeping.

5. **User Authentication:**

- Add login functionality to allow only authorized users to manage bookings.