

# PURWADHIKA HOTEL RESERVATION

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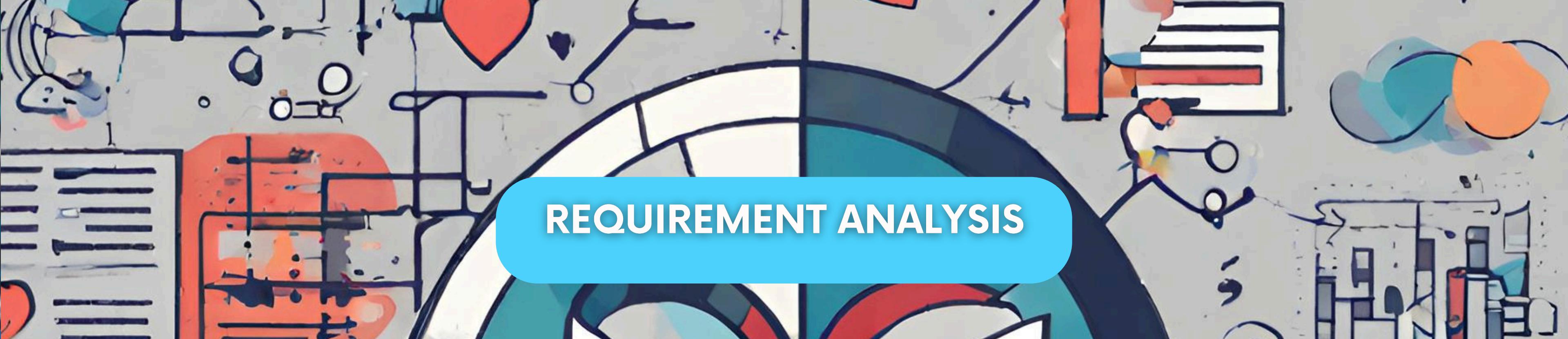
Project Link





# PROJECT OVERVIEW

- The Hotel Reservation System was designed to address the core business needs of hotel management. This application enables staff to efficiently manage guest registrations and bookings, check room availability, update existing bookings, and process cancellations. The application also provides administrative page to view summary of the hotel's employees and room.
- This system is critical for ensuring that the hotel operates efficiently, with reduced errors and faster response times, improving both operational productivity and guest satisfaction. With this solution, the hotel can streamline processes and offer better customer experiences while maintaining effective data management.



## REQUIREMENT ANALYSIS

### Functional Requirements

1. Room Availability : The system should show real-time availability of rooms based on booking dates and room types.
2. Guest Registration : The system allow staff to register new guests and to update data.
3. Booking Management : The application should enable staff to create, view, update, and cancel bookings for room.
4. Administrative View : The application should provide an administrative interface to navigate business summary.

### Non Functional Requirements

1. Usability : The application must be user-friendly and easily navigate through the system.
2. Security : The system should ensure login by validate the name of the staff.
3. Performance : The application should be able to handle errors or mis-format effectively.
4. Reability : The system must available to display the reliable data.



## TABLE REQUIREMENT

In a hotel management system, the following data are typically stored and managed to facilitate booking, customer service, and overall hotel management:

1. Room Data : include room number, type, prices, and status of the room.
2. Customer Data : stores customer identity, address, age, gender, phone number, and loyalty.
3. Employee Data : contains employee identity, position, age, gender, and contact number.
4. Booking Data : includes customer booking details such as arrival and departures dates, length of stay, room status, price, taxes, payment method, total payment amount, and any discounts or refunds.

ROOM AVAILABILITY					
Room ID	Room No	Type	Smoking	Price	Status
R001	1001	Junior Suite	No	1000000	Available
R002	1002	Junior Suite	No	1000000	Available

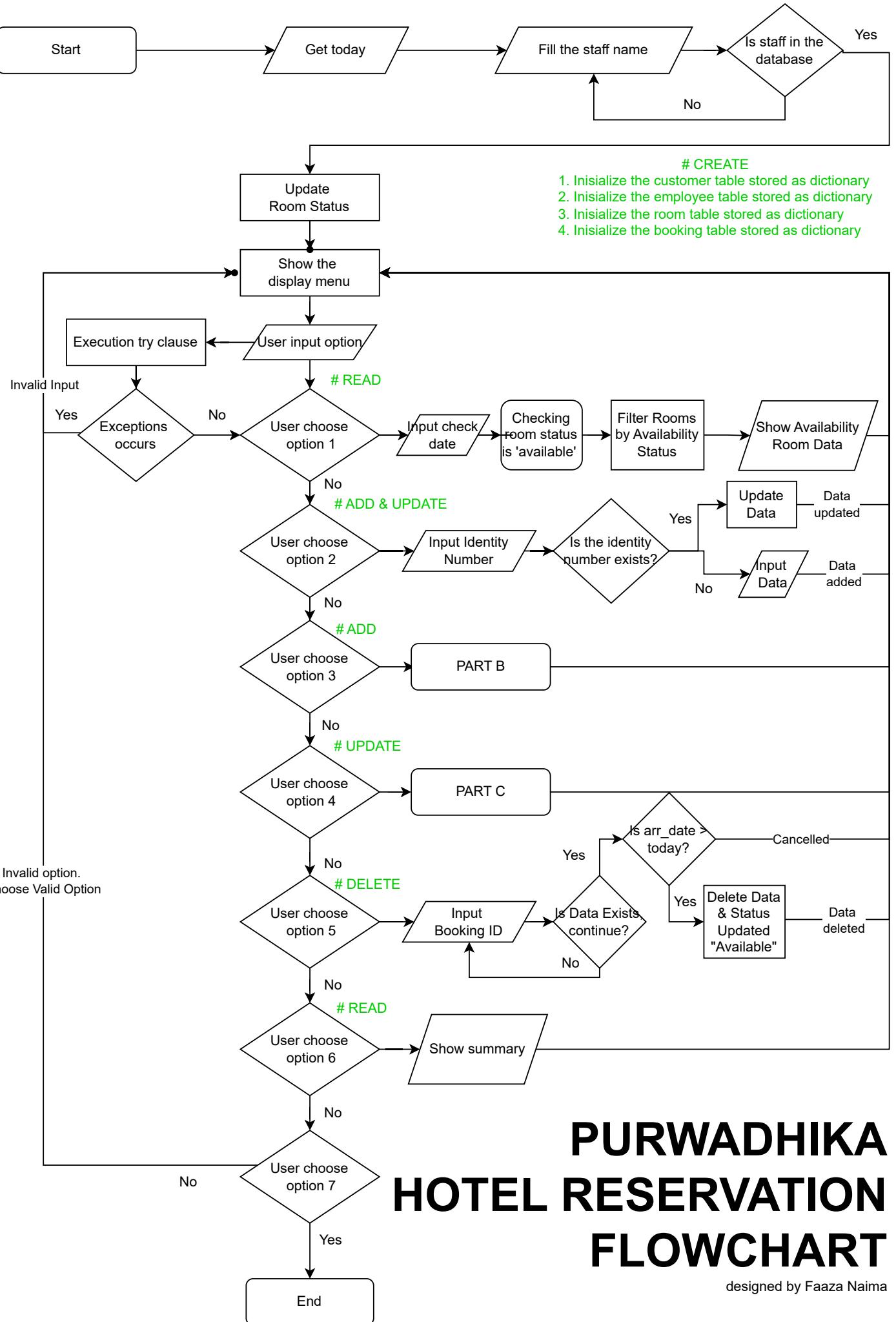
BOOKING INFORMATION								
Room No	Arr Date	Dpt Date	Days	Price	Discount	Tax	PPN	Total
1001	07/02/2025	08/02/2025	1	1000000	0	100000	110000	1210000.00



**FLOWCHART DESIGN**

**FLOWCHART LINK**

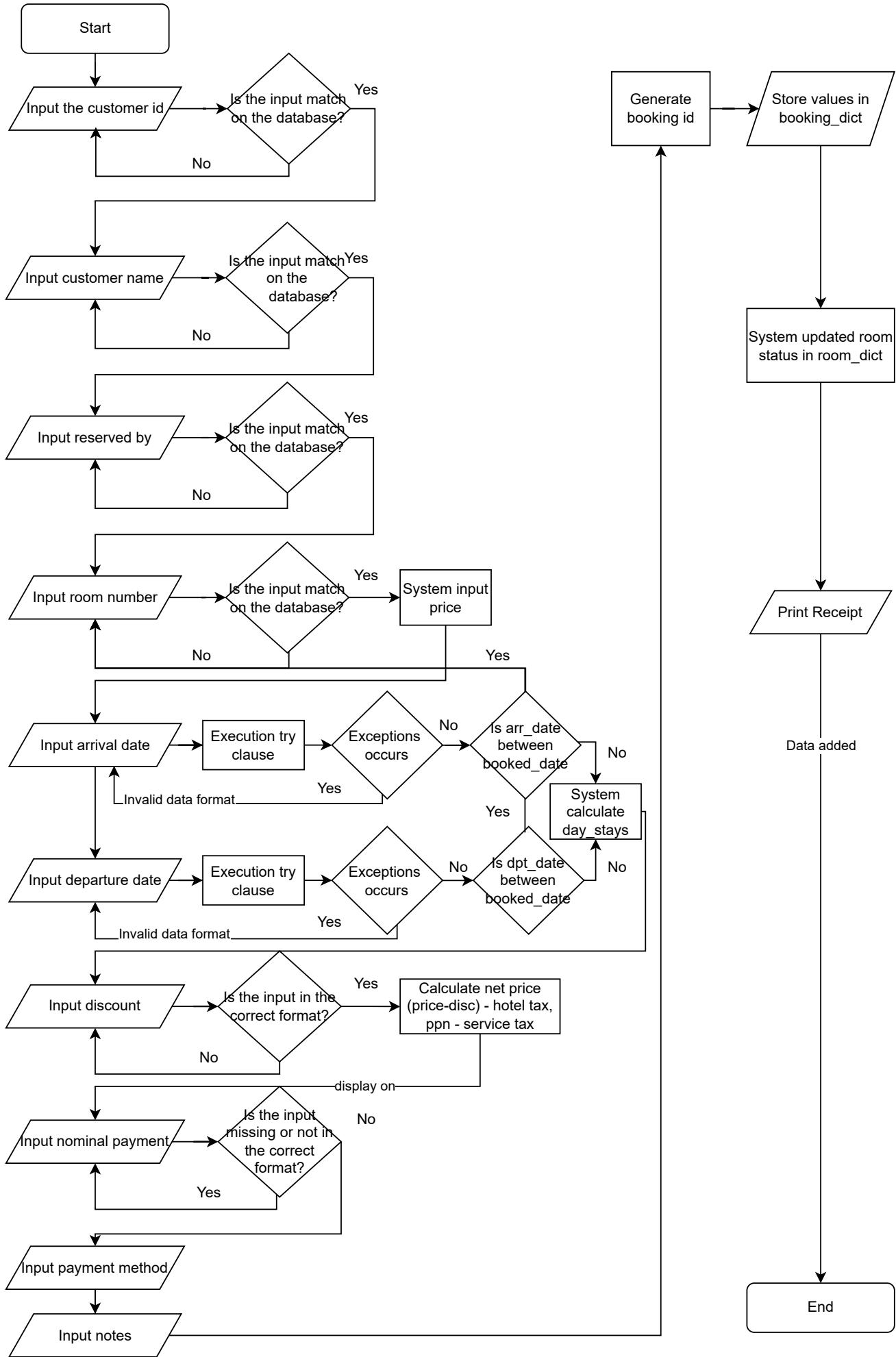
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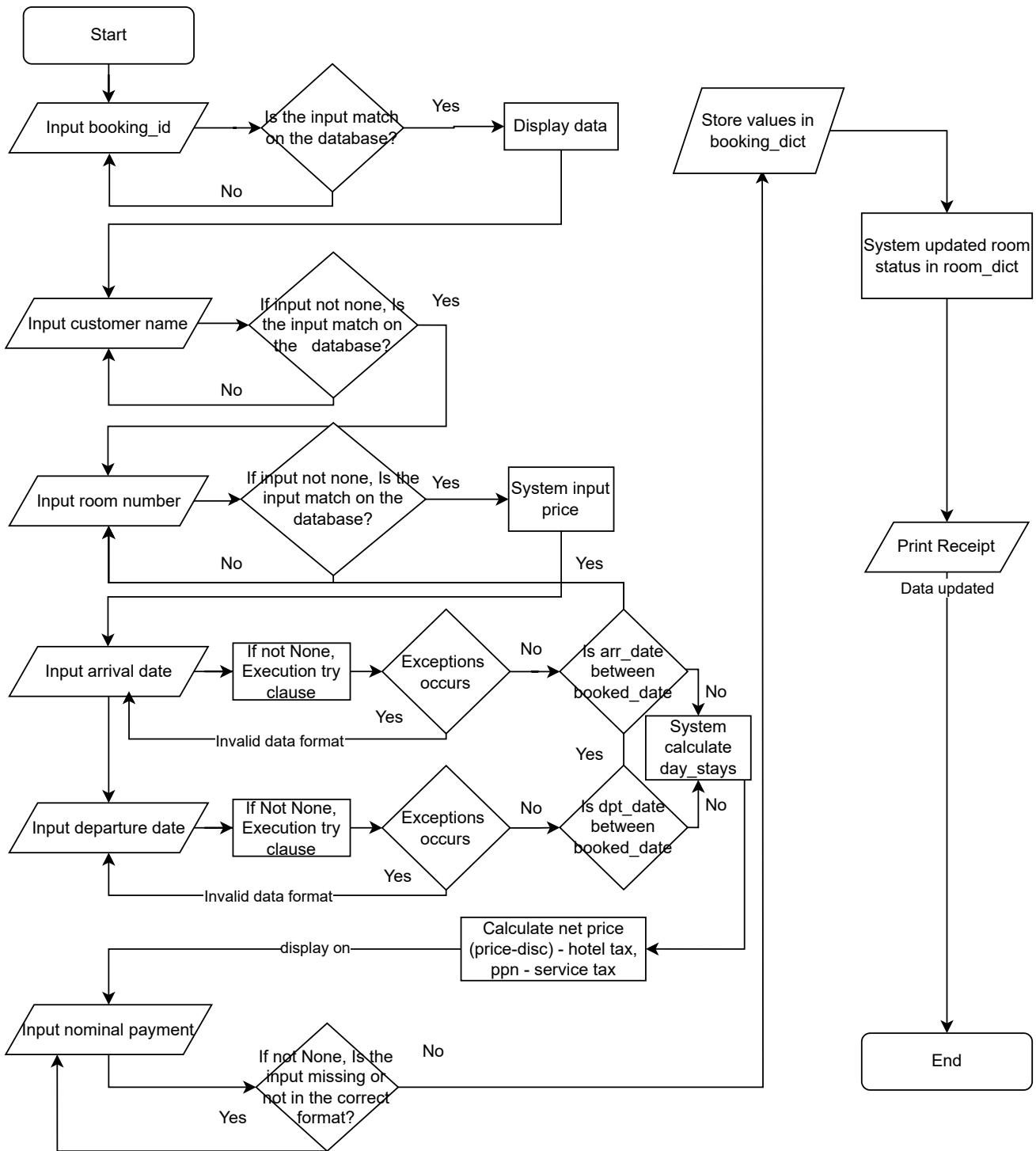
# PURWADHIKA HOTEL RESERVATION FLOWCHART

designed by Faaza Naima

# PART B



# PART C



# CODE DEVELOPMENT

The `room_checking` function filters and displays available rooms from `room_dict` using the `is_available` function with `filter()`

The `book_room` function handles the room booking process by validating customer data and room availability, calculating the stay cost including taxes and discounts, processing payments, generating a receipt, and updating the room status based on check-in and check-out dates.

The `cancel_booking` function allows users to cancel a hotel reservation by entering a valid Booking ID, displaying the booking details, confirming cancellation, and deleting the booking.

The `main_app` function initializes the hotel management system by displaying a menu that allows the user to manage room statuses, customer data, bookings, and view reports until the user chooses to exit.

TABLE

ROOM  
CHECKING

ADD CUST

ADD BOOKING

AMEND  
BOOKING

CANCEL  
BOOKING

UPDATE  
STATUS ROOM

MAIN APP

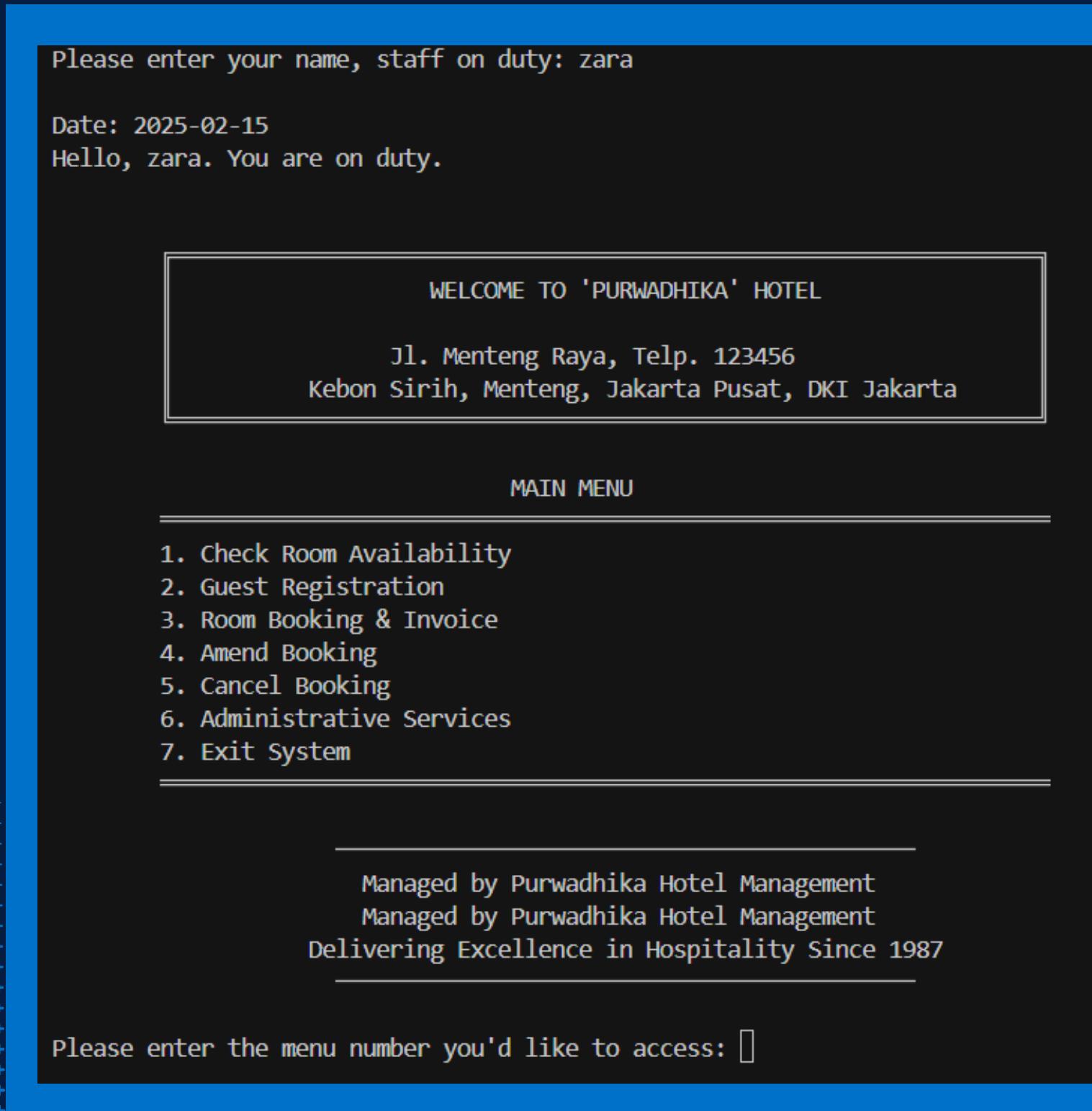
The hotel management system includes four tables: `room_dict` (rooms), `cust_dict` (customers), `emp_dict` (employees), and `booking_dict` (bookings & payments).

The `add_cust` function manages customer data by generating a unique customer ID if the customer is new or updating existing details if the identity number matches an existing record.

The `add_booking` function handles the room booking process by validating customer data and room availability, calculating the stay cost including taxes and discounts, processing payments, generating a receipt, and updating the room status based on check-in and check-out dates.

The `update_room_status()` function updates room statuses in `booking_dict` based on today's date. If the stay is ongoing, the status is "Running"; if the arrival date is in the future, it's "Booked"; and if the departure date has passed, it's "Finished".

# MAIN MENU



The `app()` function initializes the hotel management system by prompting the user to enter the current date and verifying the staff's identity. It then displays a menu that allows the user to manage room statuses, add customers, create, modify, or cancel bookings, and view reports. The function continuously loops, handling user input and executing the corresponding operations until the user chooses to exit.

# CHECK ROOM AVAILABILITY MENU

ROOM AVAILABILITY					
Room ID	Room No	Type	Smoking	Price	Status
R001	1001	Junior Suite	No	1000000	Available
R002	1002	Junior Suite	No	1000000	Available
R005	2001	Standard	No	400000	Available
R006	2002	Superior	No	600000	Available
R007	2003	Standard	No	400000	Available
R008	3001	Standard	Yes	400000	Available
R009	3002	Superior	Yes	600000	Available
R010	3003	Standard	Yes	400000	Available

The `room_checking()` function displays a formatted table of available rooms by filtering `room_dict` for entries where status is "available", showing details like Room ID, Number, Type, Smoking Preference, Price, and Status for clarity.

# ROOM BOOKING & INVOICE MENU

RECEIPT					
PURWADHIKA HOTEL Jl. Menteng Raya, Telp. 123456 Kebon Sirih, Menteng, Jakarta Pusat, DKI Jakarta					
Come Back Soon andi					
Room Number	:	3002			
Arrival Date	:	2025-02-15			
Departure Date	:	2025-02-17			
Payment Bill	:	BK015			
Date	Description	Qty	Room	Amount	
15/02/2025	Room Charge	1	3002	Rp600,000.00	
16/02/2025	Room Charge	1	3002	Rp600,000.00	
			Balance	:	Rp1,200,000.00
Room Price	:	Rp1,200,000.00			
Discount (0.0%)	:	Rp0.00			
Hotel Tax (10%)	:	Rp120,000.00			
PPN (11%)	:	Rp132,000.00			
Service Tax	:	Rp0.00			
Total Price	:	Rp1,452,000.00			
Total Paid	:	Rp1,452,000.00			
Change	:	Rp0.00			
Please check that you have not left any valuables in the in-room personal safe. Thank you for choosing to stay with us and we wish you a pleasant onward journey.					

The function facilitates room reservations by generating a unique booking ID, validating customer details, checking room availability, and calculating costs, including discounts and taxes. It ensures the booking period does not overlap with existing reservations and calculates the total price based on the room rate and stay duration. The function then processes payment, generates a detailed receipt, and updates the room status in the book\_dict. Finally, it displays the room details for confirmation.

Message : Room 3002 has been marked as 'Occupied'.						
ROOM INFORMATION						
Room ID	Room No	Type	Smoking	Price	Status	
R009	3002	Superior	Yes	600000	Occupied	

# AMEND BOOKING MENU

REVISED RECEIPT

PURWADHIKA HOTEL  
Jl. Menteng Raya, Telp. 123456  
Kebon Sirih, Menteng, Jakarta Pusat, DKI Jakarta

Come Back Soon  
andi

Room Number : 1003  
Adults/Child : 1  
Arrival Date : 15/02/2025  
Departure Date : 18/02/2025  
Payment Bill : BK011

Date	Description	Qty	Room	Amount
15/02/2025	Room Charge	1	1003	Rp1,000,000.00
16/02/2025	Room Charge	1	1003	Rp1,000,000.00
17/02/2025	Room Charge	1	1003	Rp1,000,000.00
			Balance	: Rp3,000,000.00

Room Price : Rp3,000,000.00  
Discount : Rp0.00  
Hotel Tax (10%) : Rp300,000.00  
PPN (11%) : Rp330,000.00  
Service Tax : Rp0.00  
Total Price : Rp3,630,000.00  
Total Paid : Rp3,630,000.00  
Additional Paid : Rp1,210,000.00  
Change : Rp0.00

I agree to remain personally responsible for payment of this account if the company or any third party billed fails to pay any or all of these charges.

Please check that you have not left any valuables in the in-room personal safe. Thank you for choosing to stay with us and we wish you a pleasant onward journey.

The provided function allows to modify an existing hotel booking by updating fields such as guest name, room number, and stay dates while ensuring data integrity and availability of rooms. It validates inputs, prevents overlapping bookings, calculates updated costs with applicable taxes, and handles additional payments if necessary. Finally, it generates a revised receipt reflecting the updated booking details, including tax breakdowns, total charges, and payment status.

# CANCEL BOOKING MENU

The function allows users to cancel a booking by entering a Booking ID, validating its existence in `booking_dict`, and displaying the booking details in a formatted table. Upon confirmation, it deletes the booking, updates the corresponding room status in `book_dict`, and prints success messages. If the user cancels the action, the function exits without making changes. Finally, it calls `room_view(room_no)` to refresh the room status display.

Booking Details :												Service	Total	Paid	Change
Booking ID	Cust ID	Guest	Reserved By	Room No	Arr Date	Dpt Date	Days	Price	Discount	Tax	PPN				
BK011	cust001	andi	andi	1002	15/02/2025	19/02/2025	2	1000000.0	0.0	200000.0	220000.0	0	4840000.00	4840000.00	0.00

# LINKS

[LINKEDIN POST](#)

[GITHUB POST](#)

[MEDIUM POST](#)

# THANK YOU

