UNIVERSITI TEKNOLOGI MARA

(UiTM) KEDAH, KAMPUS SUNGAI PETANI

SCHOOL OF INFORMATION SCIENCE

COLLEGE OF COMPUTING, INFORMATICS AND MATHEMATICS

DIPLOMA IN INFORMATICS LIBRARY

[CDIM144]

PROGRAMMING FOR LIBRARIES [IML208]

INDIVIDUAL ASSIGNMENT: RESTAURANT TABLE ONLINE RESERVATION SYSTEM

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SUBMISSION DATE:

18th December 2024

INDIVIDUAL ASSIGNMENT:

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KCDIM1443B

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First and foremost, I would like to thank Allah for always giving me the strength to complete this assignment smoothly. Because of His grace, I was encouraged to continue the assignment until I succeeded.

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COLLEGE OF COMPUTING, INFORMATICS AND MATHEMATICS, KAMPUS SUNGAI PETANI.

*Students are required to sign one pledge for each course taken.

TABLE OF CONTENT

1.0 PROMPT DATA SYSTEM

Project Name: Restaurant Table Online Reservation System

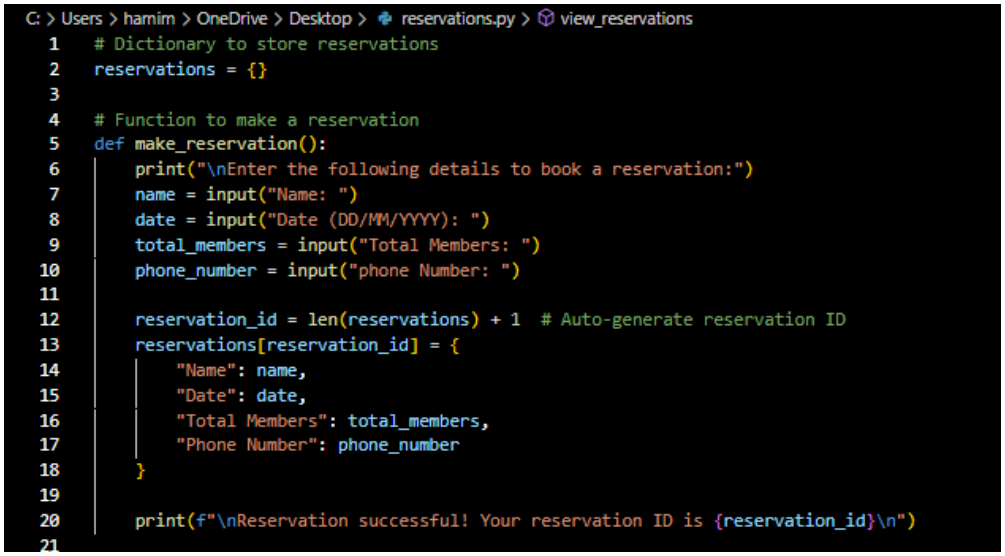
File Name: reservation.py

Prompt Data:

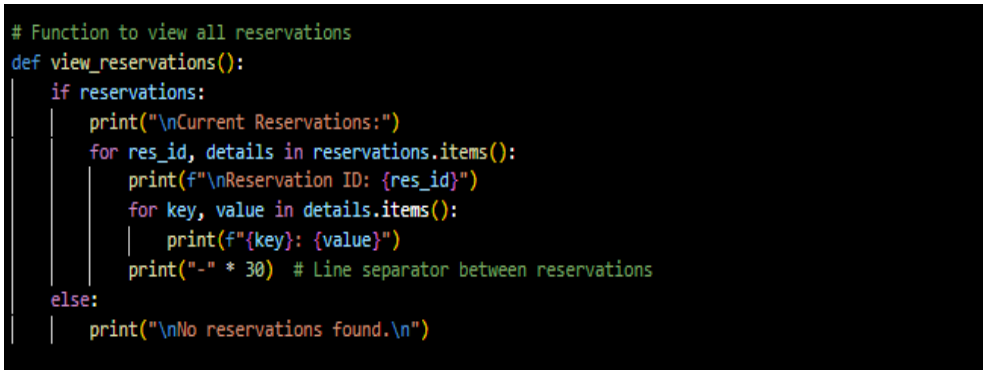
I. Name
II. Date
III. Total Members
IV. Phone Number

2.0 FUNCTION TO MAKE RESERVATION

I. Create data: Make a Reservation



II. Read data: View all Reservation



III. Update data: Update a Reservation

```
to update a reservation
reservation():
rvations:
ervation_id = int(input("\nEnter the Reservation ID to update: "))
reservation_id in reservations:
 print("\nEnter the new details (leave blank to keep current information):")
 name = input(f"Name [{reservations[reservation_id]['Name']}]: ") or reservations[reservation_id]['Name']
 date = input(f"Date (DD/MM/YYYY) [{reservations[reservation_id]['Date']}]: ") or reservations[reservation_id]['Date']
 total_members = input(f"Total Members [{reservations[reservation_id]['Total Members']}]: ") or reservations[reservation_id]['Total Members']
 phone_number = input(f"Phone Number [{reservations[reservation_id]['Phone Number']}]: ") or reservations[reservation_id]['Phone Number']

 reservations[reservation_id] = {
    "Name": name,
    "Date": date,
    "Total Members": total_members,
    "Phone Number": phone_number
 }

 print(f"\nReservation ID {reservation_id} has been updated.\n")
e:
 print("Invalid Reservation ID.\n")

nt("No reservations to update.\n")
```

IV. Delete existing data: Delete Reservation

```
# Function to delete a reservation
def delete_reservation():
    if reservations:
        reservation_id = int(input("\nEnter the Reservation ID to delete: "))
        if reservation_id in reservations:
            del reservations[reservation_id]
            print(f"Reservation ID {reservation_id} has been deleted.\n")
        else:
            print("Invalid Reservation ID.\n")
    else:
        print("No reservations to delete.\n")
```

3.0 CONDITIONAL STATEMENT: Yes

- If, for, else and elif

```
# Function to view all reservations
def view_reservations():
    if reservations:
        print("\nCurrent Reservations:")
        for res_id, details in reservations.items():
            print(f"\nReservation ID: {res_id}")
            for key, value in details.items():
                print(f"{key}: {value}")
            print("-" * 30)  # Line separator between reservations
    else:
        print("\nNo reservations found.\n")

# Function to update a reservation
def update_reservation():
    if reservations:
        reservation_id = int(input("\nEnter the Reservation ID to update: "))
        if reservation_id in reservations:
            print("\nEnter the new details (leave blank to keep current information):")
            name = input(f"Name [{reservations[reservation_id]['Name']}]: ") or reservations[reservation_id]['Name']
            date = input(f"Date (DD/MM/YYYY) [{reservations[reservation_id]['Date']}]: ") or reservations[reservation_id]['Date']
            total_members = input(f"Total Members [{reservations[reservation_id]['Total Members']}]: ") or reservations[reservation_id]['Total Me
            phone_number = input(f"Phone Number [{reservations[reservation_id]['Phone Number']}]: ") or reservations[reservation_id]['Phone Numbe
```

```
# Function to delete a reservation
def delete_reservation():
    if reservations:
        reservation_id = int(input("\nEnter the Reservation ID to delete: "))
        if reservation_id in reservations:
            del reservations[reservation_id]
            print(f"Reservation ID {reservation_id} has been deleted.\n")
        else:
            print("Invalid Reservation ID.\n")
    else:
        print("No reservations to delete.\n")
```

```
    choice = input("\nEnter your choice (1-4): ")

    if choice == "1":
        make_reservation()
    elif choice == "2":
        view_reservations()
    elif choice == "3":
        update_reservation()
    elif choice == "4":
        delete_reservation()
    else:
        print("Invalid choice. Please try again.\n")
```

4.0 RESULT

1. Make a Reservation

   - Customers are required to fill in the details of the reservation including the date, total members, and phone numbers to ensure the restaurant can easily contact them.

```
--- Online Reservation System ---
1. Make a Reservation
2. View Reservations
3. Update a Reservation
4. Delete a Reservation

Enter your choice (1-4): 1

Enter the following details to book a reservation:
Name: Nur I'zzah
Date (DD/MM/YYYY): 20/12/2024
Total Members: 7
Phone Number: 0109740511

Reservation successful! Your reservation ID is 1
```

2. View Reservation

   - Customers can view and check all reservation details in the system, such as name, date, number of members, and phone number, which will be displayed in an organized format. Each reservation is shown according to the respective user's Reservation ID.

```
--- Online Reservation System ---
1. Make a Reservation
2. View Reservations
3. Update a Reservation
4. Delete a Reservation

Enter your choice (1-4): 2

Current Reservations:

Reservation ID: 1
Name: Nur I'zzah
Date: 20/12/2024
Total Members: 7
Phone Number: 0109740511
------------------------------
```

3. Update Reservation

   - Customers can change or update their booking information such as date or number of members. this function gives users the flexibility to change their plans.

```
--- Online Reservation System ---
1. Make a Reservation
2. View Reservations
3. Update a Reservation
4. Delete a Reservation

Enter your choice (1-4): 3

Enter the Reservation ID to update: 1

Enter the new details (leave blank to keep current information):
Name [Nur I'zzah]: Nur I'zzah Raihanah
Date (DD/MM/YYYY) [20/12/2024]: 21/12/2024
Total Members [7]: 10
Phone Number [0109740511]:

Reservation ID 1 has been updated.
```

4. Delete reservation

   - Customers are able to cancel or delete certain bookings from their booking system.

```
--- Online Reservation System ---
1. Make a Reservation
2. View Reservations
3. Update a Reservation
4. Delete a Reservation

Enter your choice (1-4): 4

Enter the Reservation ID to delete: 1
Reservation ID 1 has been deleted.
```

5.0 STRENGTH

1. User-friendly Input Data

   - The [make_reservation] function guides users to input details neatly.
   - The menu interface provides easy-to-understand options and simple navigation or user to prompt.

2. Separation of Functions

   - The code is divided into well-defined functions which are [make_reservation], [view_reservations], [cancel_reservation], and [main_menu]. This function improves readability and makes it easier to manage.

3. Auto-generated Reservation ID

   - The system automatically generates a [reservation_id] for every user reducing the risk of duplicate IDs and avoiding fraud cases.

4. Basic Error Recovery

   - The [cancel_reservation] functions to check if the ID exists before attempting to cancel, preventing errors.

5. Sort and Organize Input

   - Reservation details are displayed in a well-structured format in the [view_reservations] function.

6.0 KAIZEN (ROOM FOR IMPROVEMENT)

1. Add Time to Reservation

- Along with setting the date, we can also set a specific time to avoid collision problems between customers who have already made a reservation which is important for managing the restaurant efficiently.

2. Assign Table Numbers

- The system can also be improved by assigning a table number to each reservation to let customers know where the table is to ensure a more organized seating management process and avoid confusion, as well as speed up service and provide comfort to customers in finding their table without any problems.

3. Allow Changes to Reservation

- Sometimes, customers may need to change their reservation details, such as the number of members or time. By adding the option to modify the existing reservations, it will be possible to make the system more flexible and user-friendly.

4. Adding Reminders

- Send a reminder notification to every customer who has made a reservation. A day before or a few hours before their reservation time. Reminder Notifications are sent either via phone number or email. This will ensure the customer does not forget about their reservation besides, build customer relationships. This will improve business performance and customer satisfaction.
-

5. Reservation Capacity Limit of Members

- By setting maximum capacity limits for reservations, such as limiting the number of members per table to ensure that the place does not become crowded and can comfortably accommodate by all customers.

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