UNIVERSITI TEKNOLOGI MARA

KEDAH BRANCH

SCHOOL OF INFORMATION SCIENCE

COLLEGE OF COMPUTING, INFORMATICS AND MATHEMATICS

DIPLOMA IN LIBRARY INFORMATIC (CDIM144)

IML208 : PROGRAMMING FOR LIBRARIES

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INDIVIDUAL PROJECT.

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CDIM144 – DIPLOMA IN LIBRARY INFORMATICS

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UNIVESITI TEKNOLOGI MARA (UITM)

KEDAH BRANCH

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Bahagian Pentaksiran dan Penilaian Akademik

2021

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I also want to thank all of the people who have been working alongside on this project. It is so great that you are willing to help out when I need it. Thank you for your hard work and dedication, which has made my success possible.
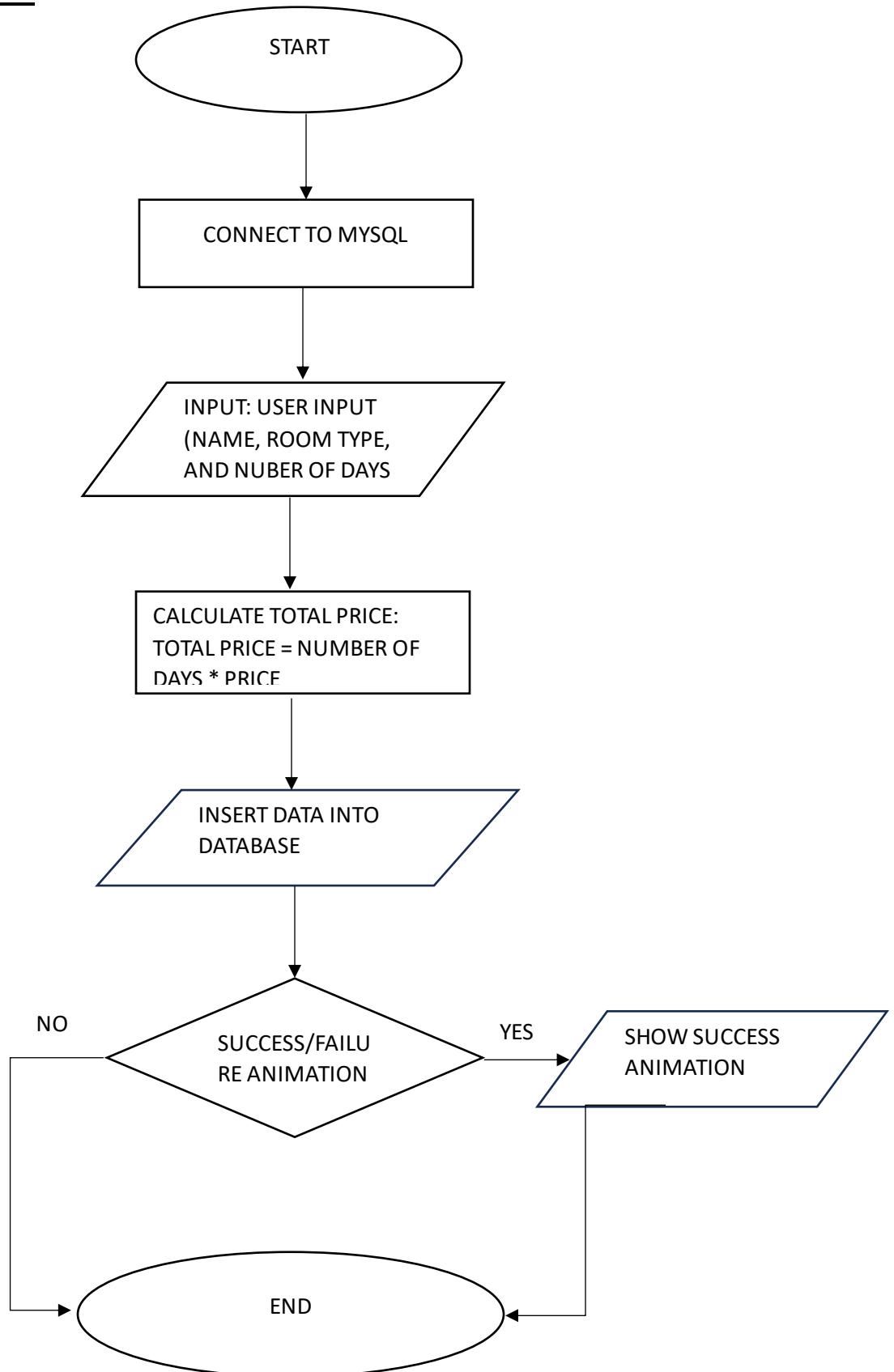
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1.0 INTRODUCTION

Using Python, the Tkinter library for the graphical user interface, and MySQL for database interactions, I created a hotel registration system for this project. This application's goal is to give visitors an easy-to-use way to book their stay at the hotel. Users are prompted by the interface to enter their name, choose a type of room, and indicate how long they plan to stay. The code securely connects to a MySQL database in the background to enable the storing of guest data and the computation of the total cost based on the selected room type and duration. By offering visual feedback, the addition of success and error animations improves the user experience. This code provides the framework for a working hotel registration system and presents chances for improvement and growth in the areas of database management, user interface design, and security. Starting to develop this hotel registration system has been a gratifying experience in design and coding. I've created an interactive platform that simplifies the guest registration process by utilising the capabilities of Python, Tkinter, and MySQL. The goal of this project is to provide a smooth user experience by asking visitors to enter basic information about themselves, including name, preferred room type, and length of stay. This data is securely stored thanks to the integration with a MySQL database, which makes guest record management easy. The user interface's inclusion of success and error animations, which give users instant visual feedback, is one of its best features.
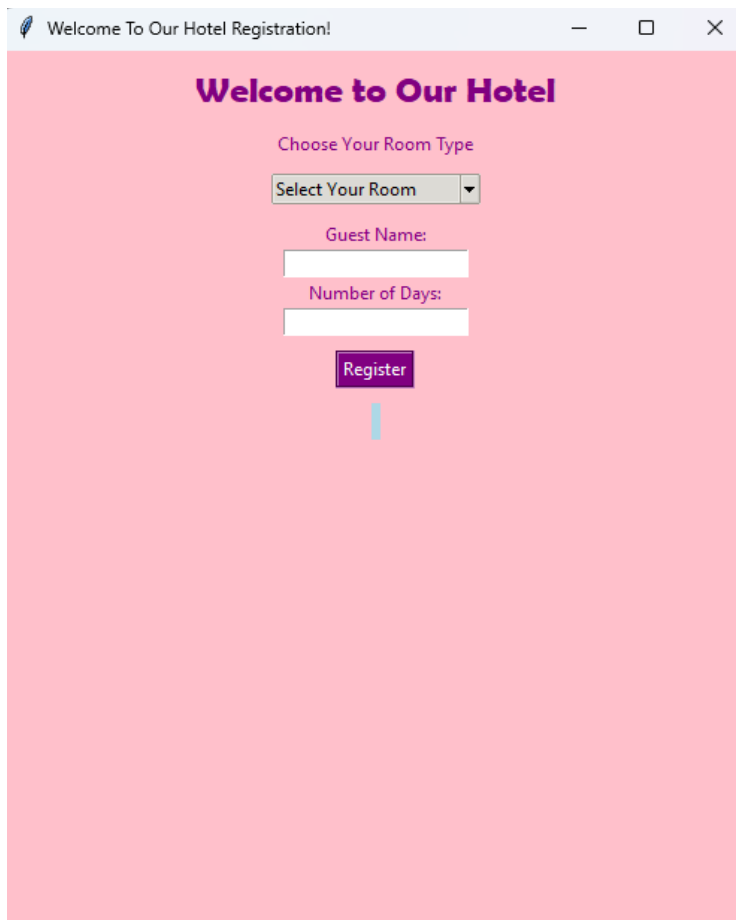
2.0 FLOWCHART

```
                    ( START )
                        |
                        v
            +-----------------------+
            |   CONNECT TO MYSQL    |
            +-----------------------+
                        |
                        v
            /-----------------------/
           / INPUT: USER INPUT     /
          /  (NAME, ROOM TYPE,    /
         /   AND NUBER OF DAYS   /
        /-----------------------/
                        |
                        v
            +-----------------------+
            | CALCULATE TOTAL PRICE:|
            | TOTAL PRICE = NUMBER OF|
            | DAYS * PRICE          |
            +-----------------------+
                        |
                        v
            /-----------------------/
           / INSERT DATA INTO      /
          /  DATABASE            /
         /-----------------------/
                        |
                        v
NO              < SUCCESS/FAILURE >        YES    / SHOW SUCCESS /
  <-------------<  ANIMATION      >------------->/  ANIMATION   /
  |                                                     |
  |                                                     |
  |                    ( END )  <-----------------------+
  +------------------->
```

3.0 SNAPSHOT OF CODE

```python
import tkinter as tk
from tkinter import ttk
import mysql.connector

def connect_to_database():
    try:
        mydb = mysql.connector.connect(
            host="localhost",
            user="root",
            password="",
            database="hotel_registration"
        )
        return mydb
    except mysql.connector.Error as err:
        print(f"Error: {err}")
        exit()

def register_guest():
    guest_name = name_var.get()
    room_type = room_var.get()
    num_days = int(days_entry.get())

    prices = {
        "Single": 100,
        "Double": 200,
        "Suite": 300,
    }

    total_price = prices.get(room_type, 0) * num_days

    try:
        sql = "INSERT INTO `guests` (Guest_Name, Room_Type, Number_Days, Total_Price) VALUES (%s, %s, %s, %s)"
        val = (guest_name, room_type, num_days, total_price)
        mycursor.execute(sql, val)
        mydb.commit()
```

```python
        mydb.commit()
        output_label.config(text=f"Guest: {guest_name}, Room: {room_type}, Days: {num_days}, Total Price: RM{total_price}")
        show_success_animation()
    except mysql.connector.Error as err:
        print(f"Error: {err}")
        show_error_animation()

def show_success_animation():
    output_label.config(fg="green")
    output_label.after(2000, reset_label)

def show_error_animation():
    output_label.config(fg="red")
    output_label.after(2000, reset_label)

def reset_label():
    output_label.config(text="", fg="margenta")

root = tk.Tk()
root.title("Welcome To Our Hotel Registration!")
root.geometry('500x600')
root.configure(bg='pink')

mydb = connect_to_database()
mycursor = mydb.cursor()

# Page Title
label = tk.Label(root, text='Welcome to Our Hotel', font=("Berlin Sans FB Demi", 18, "bold"), bg='pink', fg='purple')
label.pack(ipadx=10, ipady=10)

# Room Type Dropdown with ttk theme
style = ttk.Style()
style.theme_use('clam')
room_label = tk.Label(root, text="Choose Your Room Type", bg='pink', fg='purple')
room_label.pack()
```

```python
    room_label.pack()

    room_var = tk.StringVar(root)
    room_var.set("Select Your Room")  # Default value
    room_dropdown = ttk.Combobox(root, textvariable=room_var, values=["Single", "Double", "Suite"], state='readonly')
    room_dropdown.pack(pady=10)

    # Guest Name Entry
    name_label = tk.Label(root, text="Guest Name:", bg='pink', fg='purple')
    name_label.pack()
    name_var = tk.StringVar(root)
    name_entry = tk.Entry(root, textvariable=name_var)
    name_entry.pack()

    # Number of Days Entry
    days_label = tk.Label(root, text="Number of Days:", bg='pink', fg='purple')
    days_label.pack()
    days_entry = tk.Entry(root)
    days_entry.pack()

    # Register Button with hover effect
    register_button = tk.Button(root, text="Register", command=register_guest, relief=tk.GROOVE, bg='purple', fg='white')
    register_button.pack(pady=10)
    register_button.bind("<Enter>", lambda event: register_button.config(bg='gold'))
    register_button.bind("<Leave>", lambda event: register_button.config(bg='orange'))

    # Output Label
    output_label = tk.Label(root, text="", font=("Times New Roman", 12), bg='lightblue')
    output_label.pack()

root.mainloop()
```

4.0 SNAPSHOT OF GUI

5.0 SNAPSHOT OF DATABASE

6.0 CONCLUSION

In conclusion, the Hotel Registration is a simple hotel registration system that was created with MySQL for database interactions and Tkinter for the graphical user interface. It connects to a MySQL database so that users can enter their name, choose a type of room, and indicate how many days they would like to stay. The total cost is determined during the registration process by factoring in the type of room selected and the length of stay. This data is then entered into the MySQL database's "guests" table. An output label displaying animations indicating success or error provides the user with feedback through a visual interface. There is room for improvement even though the code shows that the registration system is operational. The use of an empty password for the MySQL connection raises security concerns, and input validation should be improved to guarantee data integrity. More instructive messages could also enhance the user experience, and error logging could be added for more effective debugging. For a more flexible application, the modularity and concern separation of the code could be improved, and dynamic pricing from the database and internationalisation support could be taken into account. The overall goal of these factors is to improve the hotel registration system's usability, security, and maintainability. This is a useful and aesthetically pleasing system could be created by combining MySQL for database interactions with Tkinter for the user interface. I like that users can easily register their details thanks to the database's smooth connectivity. The application gains a dynamic element when the total price is computed based on the type of room and length of stay. Despite the project's success, I recognise the value of ongoing development. In subsequent iterations, I intend to concentrate on implementing secure practices, improving user input validation, and improving the overall user experience. I've learned a lot from working on this project, and I'm excited to use these abilities in my future undertakings.