



COLLEGE OF COMPUTING, INFORMATICS AND MATHEMATICS
UNIVERSITI TEKNOLOGI MARA
MERBOK, KEDAH

DIPLOMA IN LIBRARY INFORMATICS
(IM144)

PROGRAMMING FOR LIBRARIES
(IML208)

INDIVIDUAL PROJECT: REPORT

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SUBMISSION DATE:

4th JAN 2024

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Assalamualaikum, warahmatullahi wabarakatuh.

Salam UiTM Dihatiku.

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Second, my deepest appreciation goes to my dearest roommates, who have given me all they can for putting up with me even at my absolute worst and never doubting me even once. Despite all the pressures we have on our shoulders, you have never stopped being my helping hand.

Thank you so much. My only hope for this portfolio is that it will soon be helpful, no matter how big or small.

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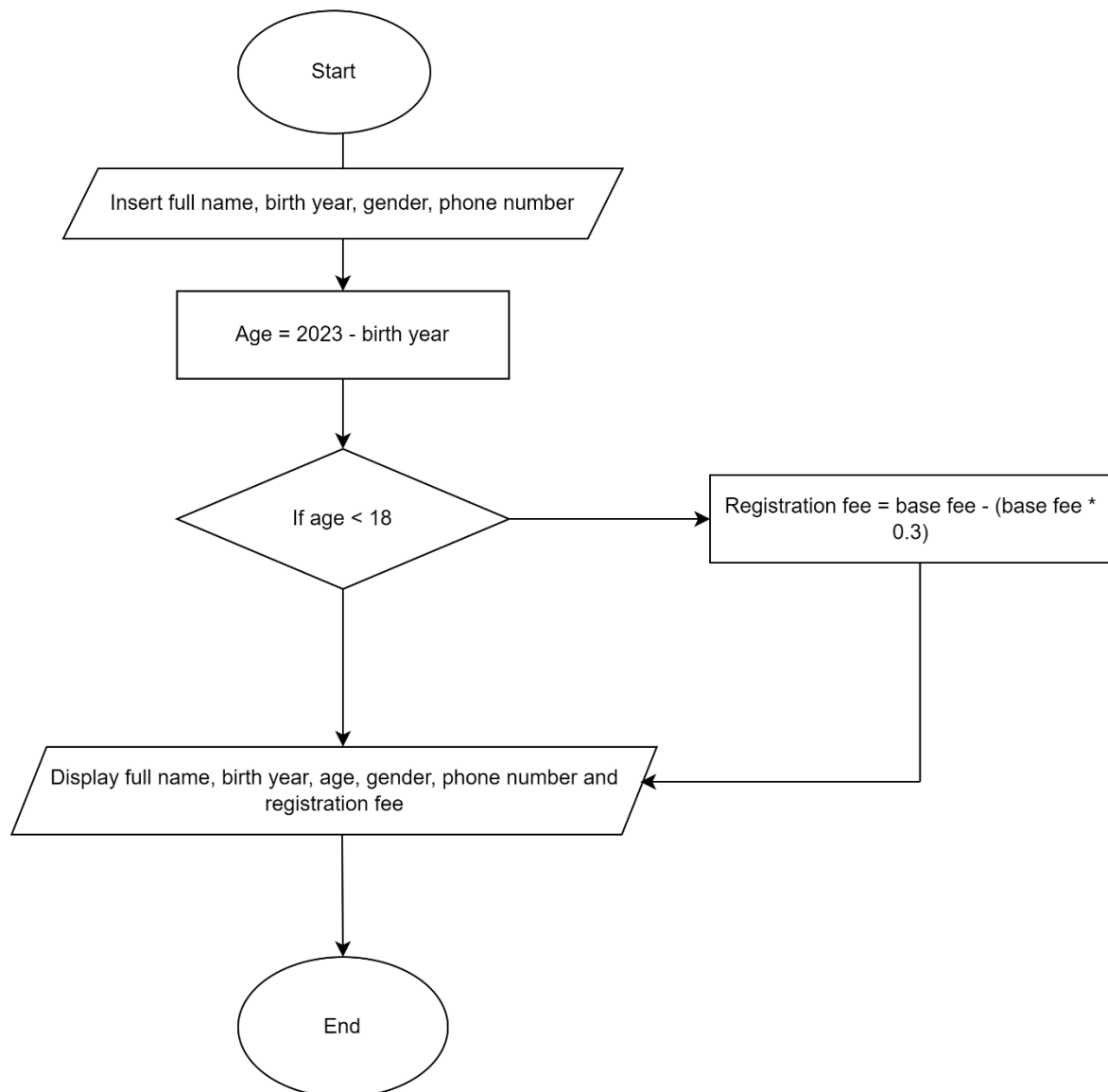
1.0 INTRODUCTION

For my individual assignment, I made a simple registration system for a diving center that serves as a user-friendly interface for both administrators and new divers. There are 6 attributes involved, which are full name, birth year, age, gender, phone number, and annual registration fee. Users need to insert their full name for identification purposes, and their birth year to determine whether they are eligible for discounts or not, which will be generated by subtracting their birth year from the year 2023. Then, users will have to insert their gender, and phone number.

I included a formula that calculates new members' ages from the birth year data they have entered. For those whose ages are generated to be 18 and below, they will get a 30% discount from the annual fee of RM300. The output will consist of their full name, birth year, age, gender, phone number, and registration fee.

These data will be saved into MySQL database named 'Diving Center', specifically into a table named members, which is hosted by PhpMyAdmin.

2.0 FLOWCHART



3.0 SNAPSHOTS OF PYTHON CODE

```
individual_assignment.py > collect_data
1  import tkinter as tk
2  import mysql.connector
3
4  # Connect to your MySQL database
5  mydb = mysql.connector.connect(
6      host="localhost",
7      user="root",
8      password="",
9      database="diving_center"
10 )
11
12 # Create a cursor object to execute SQL queries
13 mycursor = mydb.cursor()
14
15 # Function to calculate age based on birthdate
16 def calculate_age(birthyear):
17     current_year = 2023
18     age = current_year - int(birthyear)
19     return age
20
21 # Function to insert data into the table
22 def collect_data():
23     name = full_name_entry.get()
24     birthyear = birthyear_entry.get()
25     gender = gender_entry.get()
26     phone_number = phone_number_entry.get()
27
28     # Calculate age based on birthdate
29     age = calculate_age(birthyear)
30
31     # Apply discount if the person is under 18
```

```
32     # Apply discount if the person is under 18
33     discount_percentage = 0.3 if age < 18 else 0
34
35     # Calculate registration fee
36     base_fee = 300
37     registration_fee = base_fee - (base_fee * discount_percentage)
38
39     # Insert data into the database
40     sql = "INSERT INTO members (Full_Name, Gender, Birth_Year, Age, Phone_Number, Fee) VALUES (%s, %s, %s, %s, %s, %s)"
41     val = (name, gender, birthyear, age, phone_number, registration_fee)
42     mycursor.execute(sql, val)
43     mydb.commit()
44
45     # Display the result
46     output_label.config(text=f"Full Name: {name}\n\n Gender: {gender}\n\n Birth Year: {birthyear}\n\n Age: {age}\n\n"
47                          f"Phone Number: {phone_number}\n\n Registration Fee: RM{registration_fee}\n\n")
48
49 # Tkinter GUI
50 root = tk.Tk()
51 root.title("Diving Centre Registration System")
52 root.geometry("600x600")
53 root.configure(bg="pink")
54
55 # Page Title
56 label = tk.Label(root, text='Welcome to Diving Center', font=("Times New Roman", 15, "bold"))
57 label.pack(ipadx=10, ipady=10)
58
59 label_full_name = tk.Label(root, text="Name:")
60 label_full_name.pack()
61 full_name_entry = tk.Entry(root)
62 full_name_entry.pack()
```

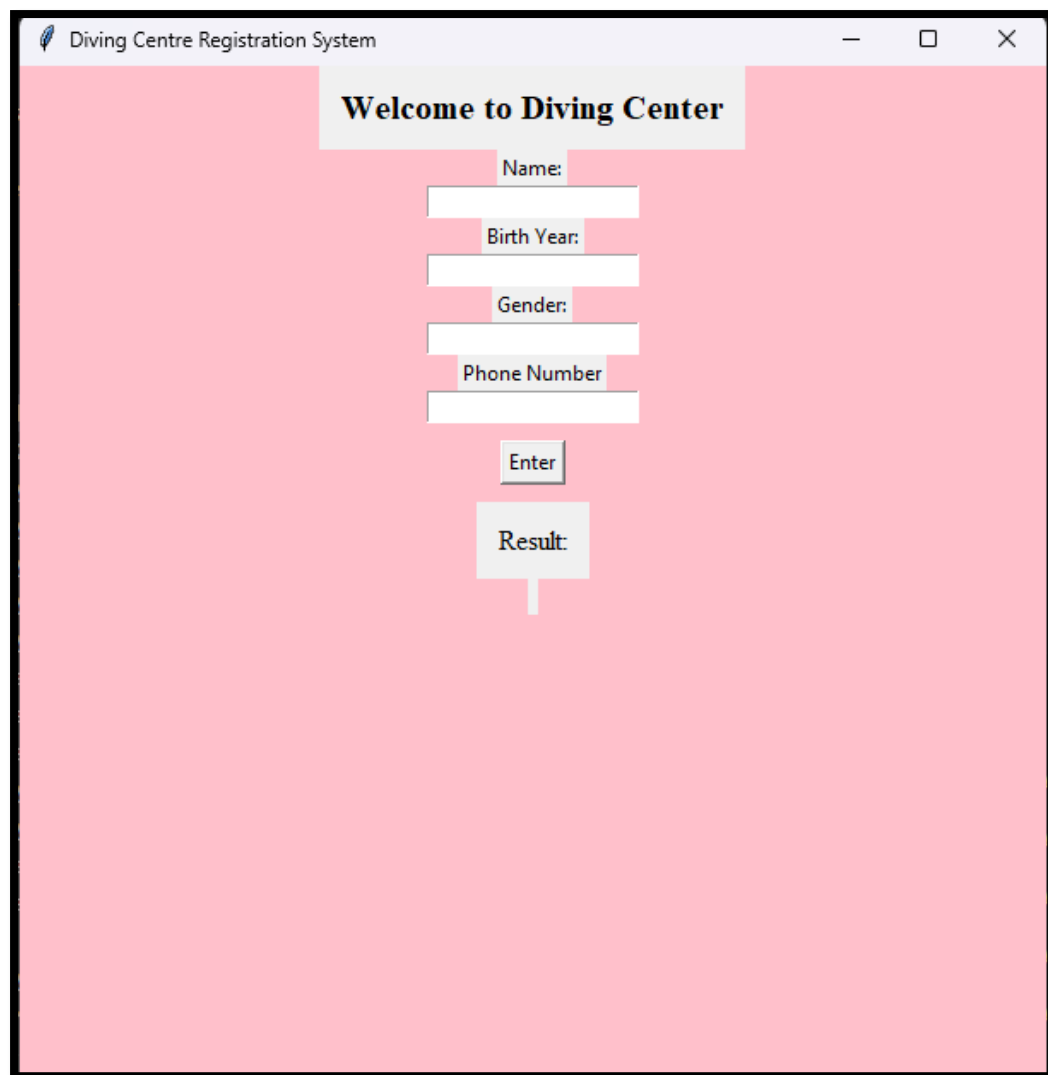


```

64 label_birthyear = tk.Label(root, text="Birth Year:")
65 label_birthyear.pack()
66 birthyear_entry = tk.Entry(root)
67 birthyear_entry.pack()
68
69 label_gender = tk.Label(root, text="Gender:")
70 label_gender.pack()
71 gender_entry = tk.Entry(root)
72 gender_entry.pack()
73
74 label_phone_number = tk.Label(root, text="Phone Number")
75 label_phone_number.pack()
76 phone_number_entry = tk.Entry(root)
77 phone_number_entry.pack()
78
79
80 # Buttons to perform operations
81 # Save Button
82 save_button = tk.Button(root, text="Enter", command=collect_data)
83 save_button.pack(pady=10)
84
85 # Output Label & result
86 label = tk.Label(root, text='Result:', font=("Times New Roman", 12))
87 label.pack(ipadx=10, ipady=10)
88 output_label = tk.Label(root, text="")
89 output_label.pack()
90
91 root.mainloop()
92

```

4.0 SNAPSHOTS OF GUI (GRAPHIC USER INTERFACE)



The screenshot displays a software window titled "Diving Centre Registration System". The window has a light pink background and a central grey panel containing the registration form. At the top of the grey panel is the heading "Welcome to Diving Center". Below this, the form consists of five input fields, each preceded by a label: "Name:", "Birth Year:", "Gender:", and "Phone Number:". These labels and their corresponding input boxes are arranged in a vertical stack. Below the "Phone Number" input field is a button labeled "Enter". At the bottom of the form is a label "Result:" followed by a small vertical line, indicating where the registration outcome will be displayed. The window's title bar includes standard minimize, maximize, and close buttons.

Diving Centre Registration System

Welcome to Diving Center

Name:

Ummi Kalsum

Birth Year:

2004

Gender:

Female

Phone Number

01789930448

Enter

Result:

Full Name: Ummi Kalsum

Gender: Female

Birth Year: 2004

Age: 19

Phone Number: 01789930448

Registration Fee: RM300

Diving Centre Registration System

Welcome to Diving Center

Name:

Birth Year:

Gender:

Phone Number:

Result:

Full Name: Athea Zuhayra

Gender: Female

Birth Year: 2015

Age: 8

Phone Number: 01356447823

Registration Fee: RM210.0

5.0 SNAPSHOTS OF DATABASE

The screenshot shows the phpMyAdmin interface for a database named 'diving_center'. The left sidebar displays a tree view of the database structure, including tables like 'diving_center', 'members', 'holiday_package', 'information_schema', 'mysql', 'performance_schema', 'phpmyadmin', 'python_example', 'test', and 'users'. The main panel shows the 'Structure' tab for the 'members' table. It displays the table's metadata, including its type (InnoDB), collation (utf8mb4_general_ci), and size (32.0 K). Below the metadata, there is a 'Create new table' section with fields for 'Table name' and 'Number of columns' (set to 4), and a 'Create' button.

The screenshot shows the phpMyAdmin interface for the 'members' table. The main panel displays the 'Table: members' view. A message at the top states: 'Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.' Below this, a green bar indicates 'Showing rows 0 - 1 (2 total, Query took 0.0020 seconds.)'. The SQL query shown is 'SELECT * FROM `members`'. Below the query, there is a 'Query results operations' section with buttons for 'Print', 'Copy to clipboard', 'Export', 'Display chart', and 'Create view'. The table data is displayed in a grid format with columns: Full_Name, Birth_Year, Age, Gender, Phone_Number, and Fee. The data rows are:

| Full_Name | Birth_Year | Age | Gender | Phone_Number | Fee |
|---------------|------------|-----|--------|--------------|-----|
| Athea Zuhayra | 2015 | 8 | Female | 1356447823 | 210 |
| Ummi Kalsum | 2004 | 19 | Female | 1789930448 | 300 |

