



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

DIPLOMA IN LIBRARY INFORMATICS
(CDIM144)

PROGRAMMING FOR LIBRARIES
(IML208)

“INDIVIDUAL PROJECT”

PREPARED BY:

RAJA NUR HANIS SYAHIDA BINTI RAJA NASYRUL HAFIZ (2022891354)

CLASS: KCDIM1443F

PREPARED FOR:

SIR AIRUL SHAZWAN BIN NORSHAHIMI

SUBMISSION DATE:

4 JANUARY 2024

“INDIVIDUAL PROJECT”

PREPARED BY:

RAJA NUR HANIS SYAHIDA BINTI RAJA NASYRUL HAFIZ (2022891354)

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

4 JANUARY 2024

ACKNOWLEDGEMENT

First of all, I would like to sincerely thank Sir Airul Shazwan Bin Norshahimi for his significant role behind the accomplishment of the assignment. I have been guided with lots of his valuable suggestions and experience throughout the process of completion of the assignment.

I would also like to express my gratitude to my peers, without their support and cooperation this assignment could not have been accomplished. Finally, I would like to thank my parents for their support, love, and blessings.

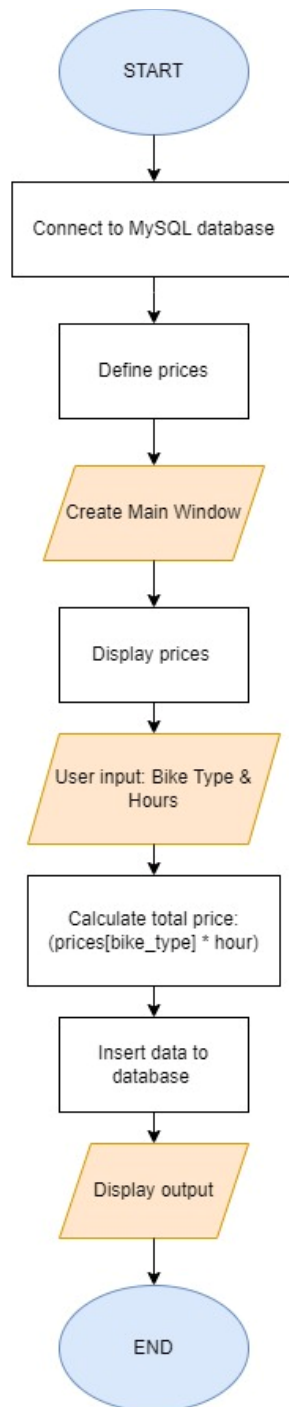
TABLE OF CONTENTS

CONTENT	PAGE
Acknowledgement	i
1.0 Introduction	1
2.0 Flowchart	2
3.0 Snapshot of the code	3-5
4.0 Snapshot of GUI	6
5.0 Snapshot of the database	7

1.0 INTRODUCTION

Tourists, commuters, students, and leisure riders are among those that use bike rental services. These businesses can be found in a variety of settings, but they are most common in urban centers, tourist attractions, university campuses, and residential districts. The bike rental industry is a growing industry that is attracting entrepreneurs who want to address the growing need for affordable and convenient transportation options. A bike rental is a hired vehicle that can be utilized for a price for a set amount of time. Getting a rental bike allows people to go around more conveniently, even if they do not have access to their own personal vehicle or do not own one at all. Individuals in need of a bike must call a rental bike company and hire a vehicle. This solution improves client retention while also streamlining vehicle and crew management. In this assignment, there are several types of bikes provided according to age and the customers' convenience.

2.0 FLOWCHART



3.0 SNAPSHOT OF THE CODE

3.1 This is the snapshot of my python code.

```
bike_rental.py X
C:\Users\user\Desktop\IML208> bike_rental > bike_rental.py ...
1 import tkinter as tk
2 import mysql.connector
3
4 #Connecting to the MySQL database
5 mydb = mysql.connector.connect(
6     host = "localhost",
7     user = "root",
8     password = "",
9     database = "bike_rental"
10 )
11
12 #Creating a cursor object to execute SQL queries
13 mycursor = mydb.cursor()
14
15 #Function to handle the calculation and database saving
16 def collect_data():
17     bike_type = package_var.get()
18     hour = int(hours_entry.get())
19
20     #The prices below are to defined the value from the user selections
21     prices = {
22         "Comfort bike": 5,
23         "Kids' bike": 5,
24         "E-bike": 10,
25         "Recumbent bike": 6,
26     }
27
28     #Calculating the total price which derived from the selection. (Bike type, Hour).
29     total_price = (prices[bike_type] * hour)
30
31     #Inserting data to the database (using 3 attributes).
32     sql = "INSERT INTO `rental` (Package_type, Package_hour, Package_price) VALUES (%s,%s,%s)"
33     val = (bike_type, hour, total_price)
34     mycursor.execute(sql, val)
35     mydb.commit()
36
37     #Printing back the output
```

```
bike_rental.py X
C:\Users\user\Desktop\IML208> bike_rental > bike_rental.py ...
38     output_label.config(text=f"Bike type : {bike_type}, Hour : {hour}, Total Price: RM{total_price}")
39
40 #Main window
41 root = tk.Tk()
42 root.title("Bike Rental")
43 root.geometry('400x600')
44
45 #Page title
46 label = tk.Label(root, text= 'Choose your bike !', font = ("Times New Roman", "16", "bold"))
47 label.pack (ipadx = 10, ipady = 10)
48
49 #Prices list
50 prices_text = tk.Text (root, height = 15, width = 45)
51 prices_text.pack (pady = 20)
52
53 #Defining list using pricebox
54 prices_text.insert (tk.END, "Types of bike and prices per hour: \n\n")
55 prices_text.insert (tk.END, "Comfort bike: \nRM5 per hour\n\n")
56 prices_text.insert (tk.END, "Kids' bike: \nRM5 per hour\n\n")
57 prices_text.insert (tk.END, "E-bike: \nRM10 per hour\n\n")
58 prices_text.insert (tk.END, "Recumbent bike: \nRM6 per hour\n\n")
59 prices_text.configure (state = 'disabled')
60
61 #Bike type dropdown (label)
62 hours_label = tk.Label (root, text = "Choose your bike")
63 hours_label.pack()
64
65 #Bike type dropdown
66 package_var = tk.StringVar (root)
67 package_var.set ("Select your bike") #default value before selection
68 bike_dropdown = tk.OptionMenu (root, package_var, "Comfort bike", "Kids' bike", "E-bike", "Recumbent bike")
69 bike_dropdown.pack (pady=10)
70
71 #Hour entry. In this section, label and user can enter data through entry.
72 hours_label = tk.Label (root, text = "Hour: ")
```

```

File Edit Selection View Go ... Search
bike_rental.py x
C:\Users\user\Desktop\IML208> bike_rental > bike_rental.py ...
71 #Hour entry. In this section, label and user can enter data through entry.
72 hours_label = tk.Label (root, text = "Hour: ")
73 hours_label.pack ()
74 hours_entry = tk.Entry (root)
75 hours_entry.pack ()
76
77 #Save button
78 save_button = tk.Button (root, text= "Total", command = collect_data)
79 save_button.pack ()
80
81 #Output label & result
82 label = tk.Label (root, text = "Your order detail:", font = ("Times New Romans", 12))
83 label.pack (ipadx = 10, ipady = 10)
84 output_label = tk.Label (root, text = "")
85 output_label.pack ()
86
87 #Setting the background colour
88 root.configure(bg = '#355E3B')
89
90 root.mainloop()
Ln 1, Col 1

```

3.2 This is the snapshot of my SQL code.

```

rental.sql x
C:\Users\user\Desktop\IML208> bike_rental > rental.sql
1  -- phpMyAdmin SQL Dump
2  -- version 5.2.1
3  -- https://www.phpmyadmin.net/
4  --
5  -- Host: 127.0.0.1
6  -- Generation Time: Dec 27, 2023 at 04:45 AM
7  -- Server version: 10.4.28-MariaDB
8  -- PHP Version: 8.2.4
9
10 SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
11 START TRANSACTION;
12 SET time_zone = "+00:00";
13
14
15 /*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
16 /*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
17 /*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
18 /*!40101 SET NAMES utf8mb4 */;
19
20 --
21 -- Database: `bike_rental`
22 --
23
24 -- -----
25 --
26 -- Table structure for table `rental`
27 --
28 --
29
30 CREATE TABLE `rental` (
31   `Package_type` varchar(50) NOT NULL,
32   `Package_hour` int(2) NOT NULL,
33   `Package_price` varchar(3) NOT NULL
34 ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;
35 COMMIT;
36
37 /*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;

```



```
rental.sql x
C: > Users > user > Desktop > IML208 > bike rental > rental.sql
20 --
21 -- Database: `bike_rental`
22 --
23
24 -- -----
25
26 --
27 -- Table structure for table `rental`
28 --
29
30 CREATE TABLE `rental` (
31   `Package_type` varchar(50) NOT NULL,
32   `Package_hour` int(2) NOT NULL,
33   `Package_price` varchar(3) NOT NULL
34 ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;
35 COMMIT;
36
37 /*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
38 /*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
39 /*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
40
```

4.0 SNAPSHOT OF GUI

Bike Rental

Choose your bike !

Types of bike and prices per hour:

Comfort bike:
RM5 per hour

Kids' bike:
RM5 per hour

E-bike:
RM10 per hour

Recumbent bike:
RM6 per hour

Choose your bike

Select your bike ▾

Hour:

Total

Your order detail:

5.0 SNAPSHOT OF THE DATABASE

The screenshot shows the phpMyAdmin interface for the 'rental' table in the 'bike_rental' database. The 'Table structure' tab is active, displaying the following table structure:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	Package_type	varchar(50)	utf8mb4_general_ci		No	None			Change Drop More
2	Package_hour	int(2)			No	None			Change Drop More
3	Package_price	varchar(3)	utf8mb4_general_ci		No	None			Change Drop More

Below the table structure, there are options to 'Check all', 'With selected:', 'Browse', 'Change', 'Drop', 'Primary', 'Unique', 'Index', 'Spatial', 'Fulltext', and 'Add to central columns'. There is also a 'Remove from central columns' button.

At the bottom, there is a section for 'Indexes' with a message 'No index defined!' and a 'Create an index on' section with a 'Go' button.

The screenshot shows the phpMyAdmin interface displaying the query results of a SELECT statement. The query is:

```
SELECT * FROM `rental`
```

The results show 5 rows (0 - 4) with the following data:

Package_type	Package_hour	Package_price
Comfort bike	2	10
Kids' bike	2	10
Kids' bike	5	25
E-bike	3	30
Kids' bike	2	10

Below the results, there is a 'Query results operations' section with buttons for 'Copy to clipboard', 'Export', 'Display chart', and 'Create view'.