COLLEGE OF COMPUTING, INFORMATICS AND MATHEMATICS,

UNIVERSITI TEKNOLOGI MARA,

MERBOK, KEDAH

DIPLOMA IN LIBRARY INFORMATICS
(CDIM144)

PROGRAMMING FOR LIBRARIES
(IML208)

"INDIVIDUAL PROJECT"

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CLASS: KCDIM1443F

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4 JANUARY 2024

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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.

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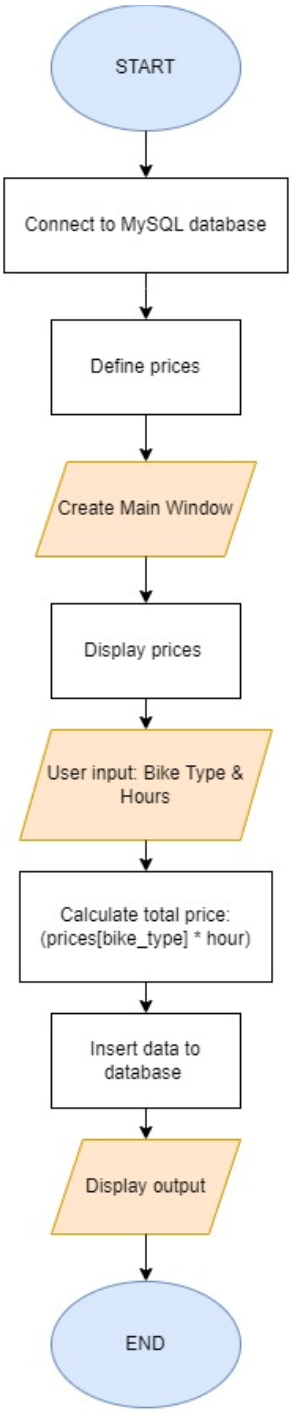
1.0 INTRODUCTION

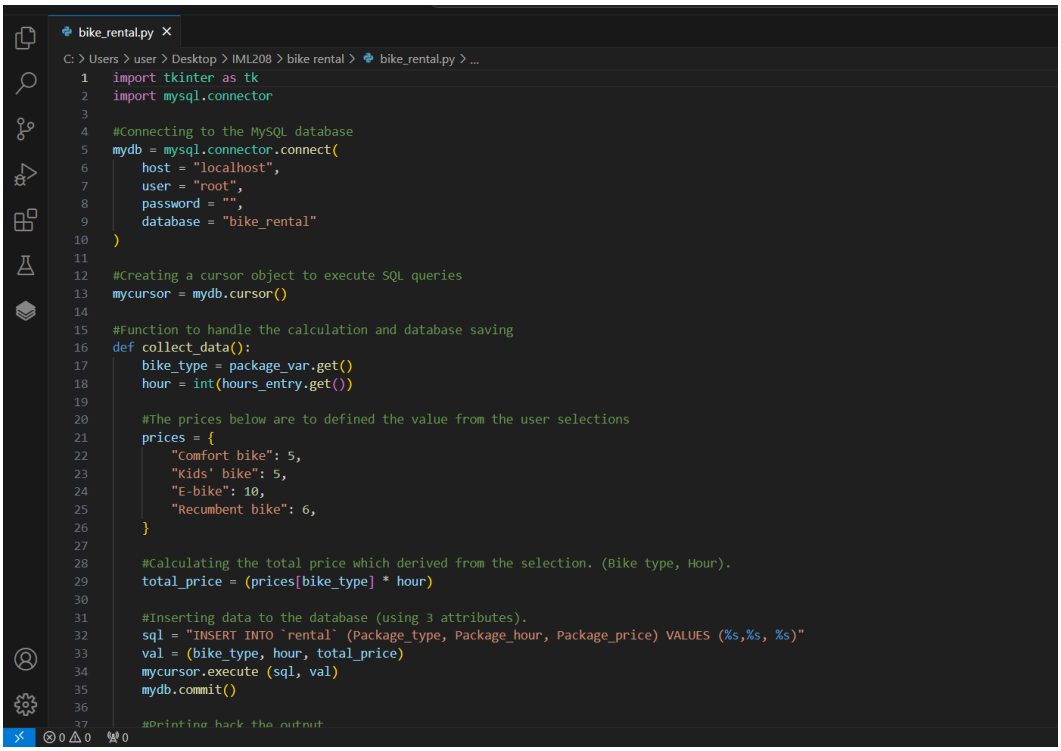
Tourists, commuters, students, and leisure riders are among those that use bike rental services. These businesses can be found in a variety of settings, but they are most common in urban centers, tourist attractions, university campuses, and residential districts. The bike rental industry is a growing 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

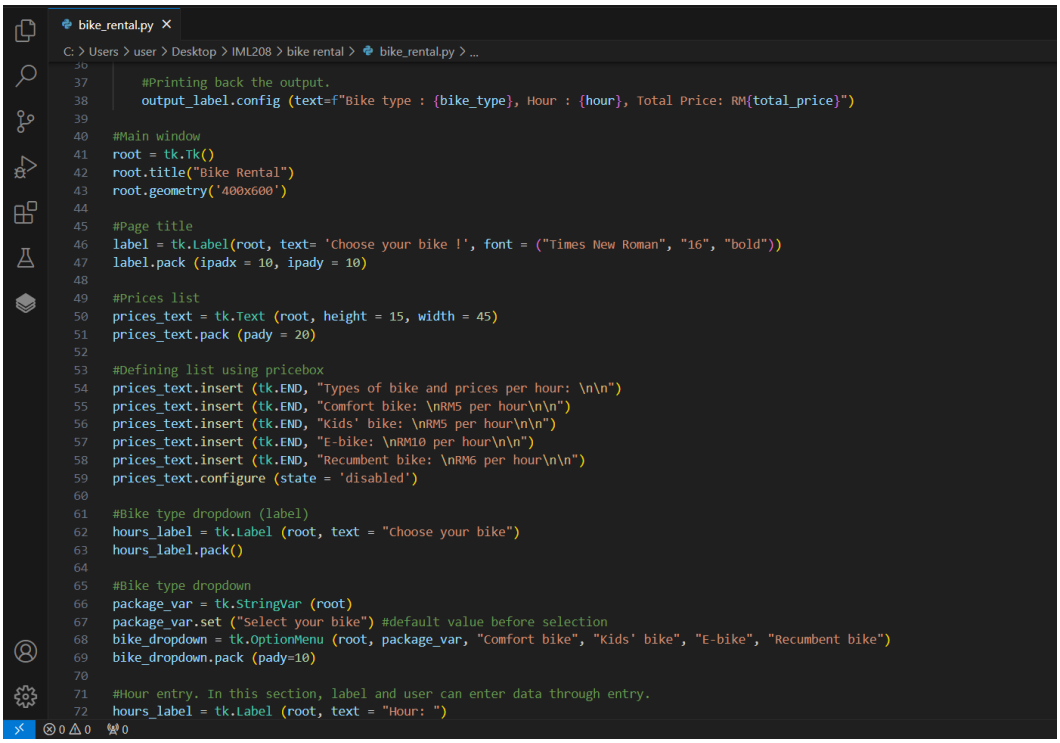


3.0 SNAPSHOT OF THE CODE

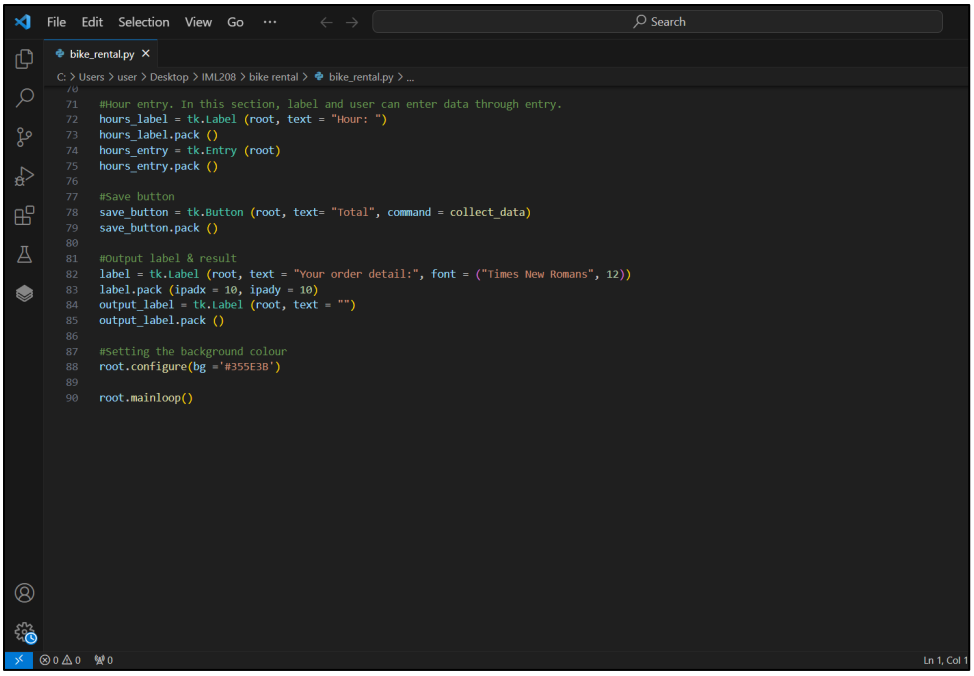
3.1 Python code



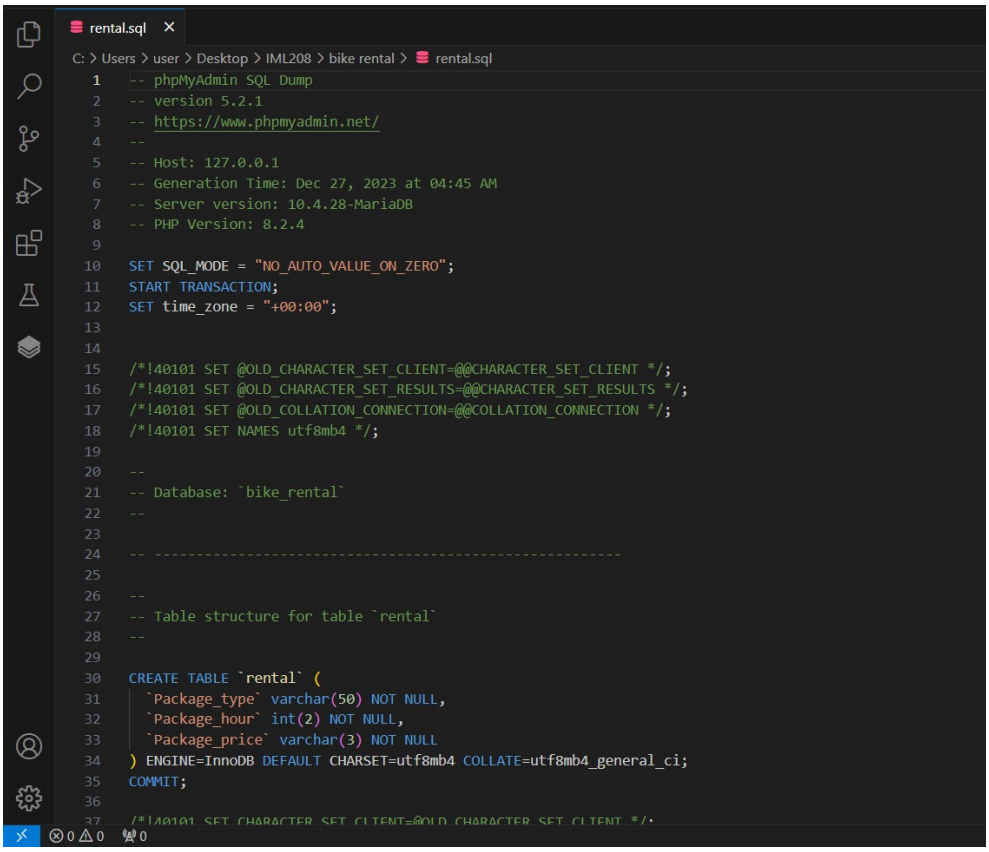
```python
import tkinter as tk
import mysql.connector

#Connecting to the MySQL database
mydb = mysql.connector.connect(
    host = "localhost",
    user = "root",
    password = "",
    database = "bike_rental"
)

#Creating a cursor object to execute SQL queries
mycursor = mydb.cursor()

#Function to handle the calculation and database saving
def collect_data():
    bike_type = package_var.get()
    hour = int(hours_entry.get())

    #The prices below are to defined the value from the user selections
    prices = {
        "Comfort bike": 5,
        "Kids' bike": 5,
        "E-bike": 10,
        "Recumbent bike": 6,
    }

    #Calculating the total price which derived from the selection. (Bike type, Hour).
    total_price = (prices[bike_type] * hour)

    #Inserting data to the database (using 3 attributes).
    sql = "INSERT INTO `rental` (Package_type, Package_hour, Package_price) VALUES (%s,%s, %s)"
    val = (bike_type, hour, total_price)
    mycursor.execute (sql, val)
    mydb.commit()

    #Printing back the output
```

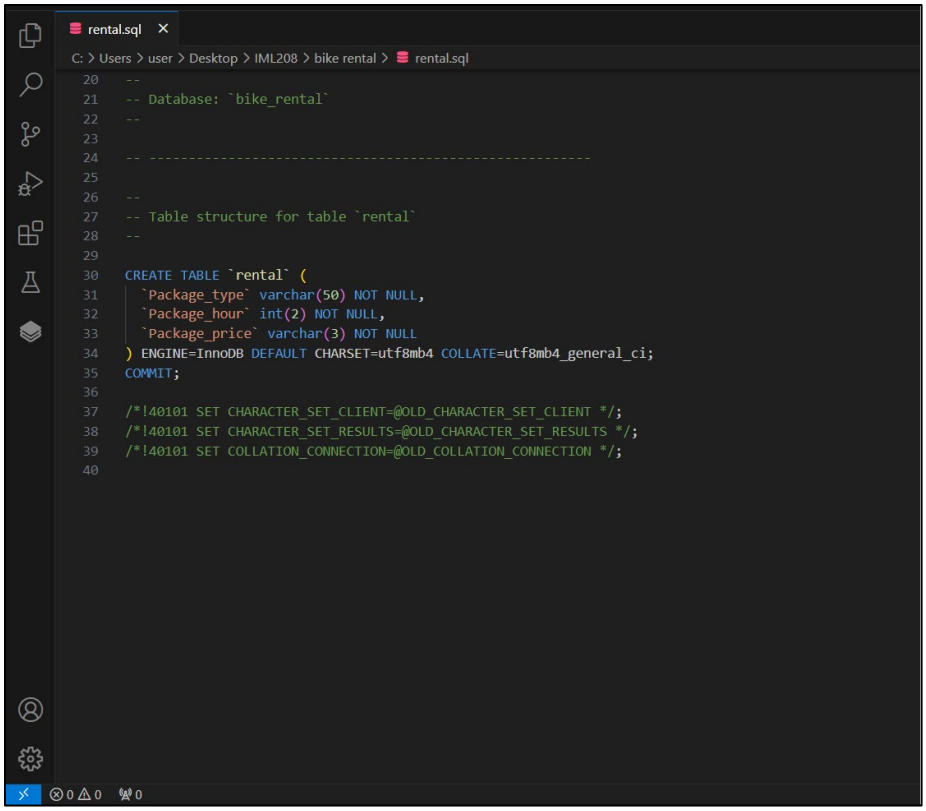


```python
    #Printing back the output.
    output_label.config (text=f"Bike type : {bike_type}, Hour : {hour}, Total Price: RM{total_price}")

#Main window
root = tk.Tk()
root.title("Bike Rental")
root.geometry('400x600')

#Page title
label = tk.Label(root, text= 'Choose your bike !', font = ("Times New Roman", "16", "bold"))
label.pack (ipadx = 10, ipady = 10)

#Prices list
prices_text = tk.Text (root, height = 15, width = 45)
prices_text.pack (pady = 20)

#Defining list using pricebox
prices_text.insert (tk.END, "Types of bike and prices per hour: \n\n")
prices_text.insert (tk.END, "Comfort bike: \nRM5 per hour\n\n")
prices_text.insert (tk.END, "Kids' bike: \nRM5 per hour\n\n")
prices_text.insert (tk.END, "E-bike: \nRM10 per hour\n\n")
prices_text.insert (tk.END, "Recumbent bike: \nRM6 per hour\n\n")
prices_text.configure (state = 'disabled')

#Bike type dropdown (label)
hours_label = tk.Label (root, text = "Choose your bike")
hours_label.pack()

#Bike type dropdown
package_var = tk.StringVar (root)
package_var.set ("Select your bike") #default value before selection
bike_dropdown = tk.OptionMenu (root, package_var, "Comfort bike", "Kids' bike", "E-bike", "Recumbent bike")
bike_dropdown.pack (pady=10)

#Hour entry. In this section, label and user can enter data through entry.
hours_label = tk.Label (root, text = "Hour: ")
```

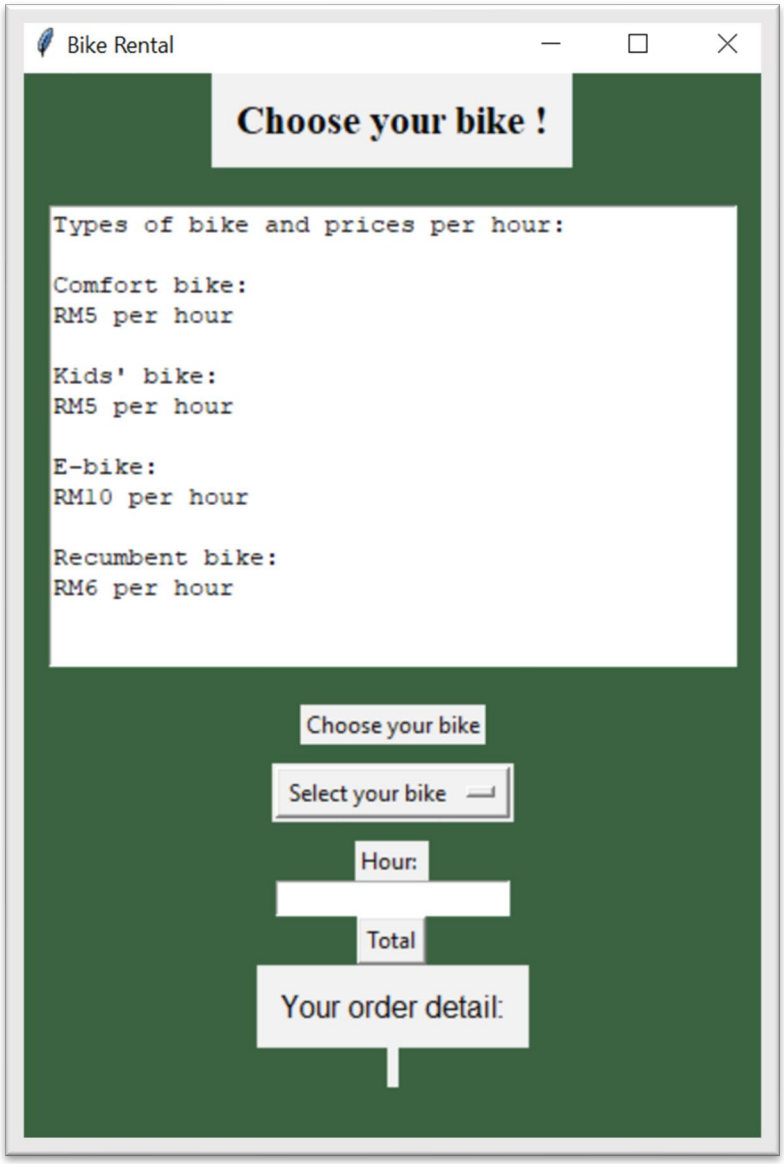

File Edit Selection View Go ···
Search
bike_rental.py
C: > Users > user > Desktop > IML208 > bike rental > bike_rental.py > ...
#Hour entry. In this section, label and user can enter data through entry.
hours_label = tk.Label (root, text = "Hour: ")
hours_label.pack ()
hours_entry = tk.Entry (root)
hours_entry.pack ()
#Save button
save_button = tk.Button (root, text= "Total", command = collect_data)
save_button.pack ()
#Output label & result
label = tk.Label (root, text = "Your order detail:", font = ("Times New Romans", 12))
label.pack (ipadx = 10, ipady = 10)
output_label = tk.Label (root, text = "")
output_label.pack ()
#Setting the background colour
root.configure(bg ='#355E3B')
root.mainloop()
Ln 1, Col 1

3.2 SQL


rental.sql
C: > Users > user > Desktop > IML208 > bike rental > rental.sql
-- phpMyAdmin SQL Dump
-- version 5.2.1
-- https://www.phpmyadmin.net/
--
-- Host: 127.0.0.1
-- Generation Time: Dec 27, 2023 at 04:45 AM
-- Server version: 10.4.28-MariaDB
-- PHP Version: 8.2.4
SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
START TRANSACTION;
SET time_zone = "+00:00";
/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
/*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
/*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
/*!40101 SET NAMES utf8mb4 */;
--
-- Database: `bike_rental`
--
-- --
--
-- Table structure for table `rental`
--
CREATE TABLE `rental` (
`Package_type` varchar(50) NOT NULL,
`Package_hour` int(2) NOT NULL,
`Package_price` varchar(3) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;
COMMIT;


rental.sql
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
0 0 0

4.0 SNAPSHOT OF GUI



5.0 SNAPSHOT OF THE DATABASE