**Budgets and Financials of MBTA**   
Milestone: Application (Python)

**Group 21**

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Submission Date : 03-30-2023

**Python code to connect to Mysql:**

**1.**

import matplotlib.pyplot as plt  
import mysql.connector  
from mysql.connector import Error  
  
try:  
 connection = mysql.connector.connect(host='localhost', database='mbta', user='root', password='1302')  
 if connection.is\_connected():  
 db\_Info = connection.get\_server\_info()  
 print("Connected to MySQL Server version ", db\_Info)  
 cursor = connection.cursor()  
 cursor.execute("select database();")  
 record = cursor.fetchone()  
 print("Your connected to database: ", record)  
  
 sql\_select\_Query = "select \* from salary"  
 cursor = connection.cursor()  
 cursor.execute(sql\_select\_Query)  
 records = cursor.fetchall()  
 hours=[]  
 vehicleids=[]  
 print("Details of vehicles are:\n")  
  
 for row in records:  
 print(row)  
  
 for row in records:  
 vehicleids.append(row[1])  
 hours.append(row[4])  
  
 print(hours)  
 print(vehicleids)  
  
  
 plt.bar(vehicleids,hours)  
 #plt.ylim(0,5)  
 plt.xlabel("ID of Employee")  
 plt.ylabel("Hours of Employee")  
 plt.title("Employee Information")  
 plt.show()  
  
except Error as e:  
 print("Error while connecting to MySQL", e)  
finally:  
 if (connection.is\_connected()):  
 cursor.close()  
 connection.close()  
 print("MySQL connection is closed")

**Output :**

PS C:\Users\gouru\PycharmProjects\trendytech> python3 .\DMA.py

Connected to MySQL Server version 8.0.30

Your connected to database: ('mbta',)

Details of vehicles are:

(1, 211, datetime.date(2022, 10, 11), datetime.date(2022, 10, 30), Decimal('12'), Decimal('1'))

(4, 212, datetime.date(2022, 6, 11), datetime.date(2022, 6, 21), Decimal('13'), Decimal('1'))

(5, 214, datetime.date(2022, 10, 11), datetime.date(2022, 10, 30), Decimal('7'), Decimal('2'))

(8, 212, datetime.date(2022, 11, 11), datetime.date(2022, 11, 22), Decimal('10'), Decimal('1'))

(14, 215, datetime.date(2022, 9, 1), datetime.date(2022, 9, 30), Decimal('10'), Decimal('1'))

(42, 212, datetime.date(2022, 10, 11), datetime.date(2022, 10, 21), Decimal('13'), Decimal('1'))

[Decimal('12'), Decimal('13'), Decimal('7'), Decimal('10'), Decimal('10'), Decimal('5'), Decimal('9'), Decimal('10'), Decimal('10'), Decimal('11'), Decimal('12'), Decimal('13'), Decimal('7'), Decimal('10'), Decimal('10'), Decimal('5'), Decimal('9'), Decimal('10'), Decimal('10'), Decimal('11'), Decimal('12'), Decimal('13')]

[211, 212, 214, 212, 215, 213, 219, 220, 216, 214, 213, 218, 219, 220, 217, 214, 211, 213, 215, 219, 220, 212]

Chart, bar chart

Description automatically generated

**Query :**

Select \* from salary;

2.

import matplotlib.pyplot as plt  
import mysql.connector  
from mysql.connector import Error  
  
try:  
 connection = mysql.connector.connect(host='localhost', database='mbta', user='root', password='1302')  
 if connection.is\_connected():  
 db\_Info = connection.get\_server\_info()  
 print("Connected to MySQL Server version ", db\_Info)  
 cursor = connection.cursor()  
 cursor.execute("select database();")  
 record = cursor.fetchone()  
 print("Your connected to database: ", record)  
  
 sql\_select\_Query = "select \* from department"  
 cursor = connection.cursor()  
 cursor.execute(sql\_select\_Query)  
 records = cursor.fetchall()  
 departmentid=[]  
 jobs=[]  
 print("Details of Expenses are:\n")  
  
 for row in records:  
 print(row)  
  
 for row in records:  
 departmentid.append(row[0])  
 jobs.append(row[2])  
  
 print(departmentid)  
 print(jobs)  
  
  
 plt.bar(departmentid,jobs)  
 #plt.ylim(0,5)  
 plt.xlabel("ID of Employee")  
 plt.ylabel("Hours of Employee")  
 plt.title("Employee Information")  
 plt.show()  
  
except Error as e:  
 print("Error while connecting to MySQL", e)  
finally:  
 if (connection.is\_connected()):  
 cursor.close()  
 connection.close()  
 print("MySQL connection is closed")

**output:**

PS C:\Users\gouru\PycharmProjects\trendytech> python3 .\DMA.py

Connected to MySQL Server version 8.0.30

Your connected to database: ('mbta',)

Details of Expenses are:

(101, 'Ruggles', 'Cleaning')

(102, 'North Station', 'Helpers')

(103, 'Government Center', 'Cleaning')

(104, 'Downtown Crossing', 'Helpers')

(105, 'South Station', 'Sweepers')

(106, 'Charles MGH', 'Ticket Supervisor')

(107, 'Downtown Crossing', 'Ticket Supervisor')

(108, 'Charles MGH', 'Cleaning')

(109, 'NorthStation', 'Ticket Supervisor')

[101, 102, 103, 104, 105, 106, 107, 108, 109]

['Cleaning', 'Helpers', 'Cleaning', 'Helpers', 'Sweepers', 'Ticket Supervisor', 'Ticket Supervisor', 'Cleaning', 'Ticket Supervisor']

MySQL connection is closed

Chart, bar chart

Description automatically generated

**Query:**

Select \* from department;

3.

import matplotlib.pyplot as plt  
import mysql.connector  
from mysql.connector import Error  
  
try:  
 connection = mysql.connector.connect(host='localhost', database='mbta', user='root', password='1302')  
 if connection.is\_connected():  
 db\_Info = connection.get\_server\_info()  
 print("Connected to MySQL Server version ", db\_Info)  
 cursor = connection.cursor()  
 cursor.execute("select database();")  
 record = cursor.fetchone()  
 print("Your connected to database: ", record)  
  
 sql\_select\_Query = "select \* from pass"  
 cursor = connection.cursor()  
 cursor.execute(sql\_select\_Query)  
 records = cursor.fetchall()  
 passid=[]  
 type=[]  
 print("Details of Quarters are:\n")  
  
 for row in records:  
 print(row)  
  
 for row in records:  
 passid.append(row[0])  
 type.append(row[4])  
  
 print(passid)  
 print(type)  
  
  
 plt.bar(passid,type)  
 #plt.ylim(0,5)  
 plt.xlabel("ID of Quarter")  
 plt.ylabel("Type of Quarter")  
 plt.title("Quarterly Information")  
 plt.show()  
  
except Error as e:  
 print("Error while connecting to MySQL", e)  
finally:  
 if (connection.is\_connected()):  
 cursor.close()  
 connection.close()  
 print("MySQL connection is closed")

**output:**

PS C:\Users\gouru\PycharmProjects\trendytech> python3 .\DMA.py

Connected to MySQL Server version 8.0.30

Your connected to database: ('mbta',)

Details of Quarters are:

(901, 301, 12.34, datetime.date(2022, 9, 14), '1-Day Pass')

(902, 302, 63.3, datetime.date(2022, 8, 17), '7-Day Pass')

(903, 303, 5.65, datetime.date(2022, 11, 12), 'Charlie Card')

(904, 304, 23.3, datetime.date(2022, 12, 31), 'MonthlyLocal Pass')

(905, 305, 76.2, datetime.date(2023, 6, 13), 'Charlie Card')

(906, 306, 34.4, datetime.date(2023, 5, 1), 'MonthlyLink Pass')

(907, 307, 5.5, datetime.date(2023, 1, 19), '1-Day Pass')

(908, 308, 7.4, datetime.date(2023, 2, 1), 'MonthlyLink Pass')

(909, 309, 19.8, datetime.date(2023, 3, 11), '7-Day Pass')

(910, 309, 0.89, datetime.date(2023, 2, 12), 'Charlie Card')

[901, 902, 903, 904, 905, 906, 907, 908, 909, 910]

['1-Day Pass', '7-Day Pass', 'Charlie Card', 'MonthlyLocal Pass', 'Charlie Card', 'MonthlyLink Pass', '1-Day Pass', 'MonthlyLink Pass', '7-Day Pass', 'Charlie Card']

MySQL connection is closed

Chart, bar chart

Description automatically generated

**Query:**

Select \* from pass;