

Part B-7

Create a table `electricity_bill`(`TariffCode`, `Customer_Name`, `Meter Number`, `Previous_Reading` and `Current_Reading`) using MySQL/SQLite and perform the followings

- To accept the details of employees and store them in a database.
- To Update the Customer details by Meter Number.
- Calculate Bill of Particular Customer using below criteria.

Tariff Code	Units Consumed	Rate/Unit
LT1	0-30	2.0
	31-100	3.5
	101-200	4.5
	Above 200	5.0
LT2	0-30	3.5
	31-100	5.0
	101-200	6.0
	Above 200	7.5

Code:

```
import sqlite3

import sys

con=sqlite3.connect('Bill.db')

c=con.cursor()

c.execute("CREATE TABLE IF NOT EXISTS electricity_bill

        (TCode TEXT,

        C_Name TEXT NOT NULL,

        M_Number TEXT PRIMARY KEY,

        Prev_Reading INT,

        Cur_Reading INT)")

def get_customer_details():

    TCode=input("Enter Tariff code (LT1/LT2):")

    if TCode in ['LT1','LT2']:
```

```

C_Name=input("Enter customer name:")
M_Number=input("Enter meter number:")
Prev_Reading=int(input("Enter previous reading:"))
Cur_Reading=int(input("Enter current reading:"))
if Cur_Reading < Prev_Reading:
    print("current reading should be greater than previous reading")
    return
data=(TCode,C_Name,M_Number,Prev_Reading,Cur_Reading)
sql="INSERT INTO electricity_bill VALUES (?, ?, ?, ?, ?)"
c.execute(sql,data)
con.commit()
print("Customer added successfully")
else:
    print("Enter correct Tariff code")

def update_customer_details():
    M_Number=input("Enter the meter number for the customer you wants to update:")
    data=(M_Number,)
    sql="SELECT *FROM electricity_bill WHERE M_Number=?"
    c.execute(sql,data)
    customer=c.fetchone()
    if customer:
        new_prev_reading=int(input("Enter the new Previous Reading:"))
        new_cur_reading=int(input("Enter the new current reading:"))
        if new_cur_reading <= new_prev_reading:
            print("Current reading should be greater than previous reading")
            return

```

```

data=(new_prev_reading,new_cur_reading,M_Number)

sql="UPDATE electricity_bill SET Prev_Reading=?,Cur_Reading=? WHERE
M_Number=?"

c.execute(sql,data)

con.commit()

print("Customer details updated successfully")

else:

    print(f"Customer with meter number {M_Number} not found")


def calculate_bill():

    M_Number=input("Enter the meter number for the customer:")

    data=(M_Number,)

    sql="SELECT TCode,Prev_Reading,Cur_Reading FROM electricity_bill WHERE
M_Number=?"

    c.execute(sql,data)

    customer=c.fetchone()

    if customer:

        T_code,Prev_Reading,Cur_Reading=customer

        units_consumed=Cur_Reading-Prev_Reading

        if T_code== "LT1":

            rate=2.0 if units_consumed <=30 else (3.5 if units_consumed <= 100 else (5.0 if
units_consumed <=200 else 5.0))

        else:

            rate=3.5 if units_consumed <=30 else (5.9 if units_consumed <= 100 else (6.0 if
units_consumed <=200 else 7.0))

        bill_amount=units_consumed * rate

        print(f"Total Bill Amount: Rs.{bill_amount:.2f}")

    else:

```

```
print(f"Customer with meter number {M_Number} not found")
```

```
while True:
```

```
    print("\n Menu:")
```

```
    print("1. Insert Customer Details")
```

```
    print("2. Update Customer Deatails")
```

```
    print("3. Calculate Bill")
```

```
    print("4. Exit")
```

```
    choice =int(input("Enter your choice (1/2/3/4):"))
```

```
    if choice==1:
```

```
        get_customer_details()
```

```
    elif choice==2:
```

```
        update_customer_details()
```

```
    elif choice==3:
```

```
        calculate_bill()
```

```
    elif choice==4:
```

```
        con.execute("drop table electricity_bill")
```

```
        sys.exit()
```

```
    else:
```

```
        print("Invalid choice.Please select a valid option")
```

Output:

```
Opened database successfully
Table electricity_bill created successfully
```

```
Menu:
```

1. Insert Customer Details
2. Update Customer Details
3. Calculate Bill
4. Exit

```
Enter your choice (1/2/3/4): 1
Enter Tariff Code(LT1/LT2) :LT1
Enter customer name :Rekha
Enter meter number :1234
Enter previous reading :567
Enter current reading:987
Customer added sucessfully
```

```
Menu:
```

1. Insert Customer Details
2. Update Customer Details
3. Calculate Bill
4. Exit

```
Enter your choice (1/2/3/4): 3
Enter the Meter Number for the customer: 1234
Total Bill Amount: Rs.2100.00
```

```
Menu:
```

1. Insert Customer Details
2. Update Customer Details
3. Calculate Bill
4. Exit

```
Enter your choice (1/2/3/4): 3
Enter the Meter Number for the customer: 1235
Total Bill Amount: Rs.2163.00
```

```
Menu:
```

1. Insert Customer Details
2. Update Customer Details
3. Calculate Bill
4. Exit

```
Enter your choice (1/2/3/4): 3
Enter the Meter Number for the customer: 1234
Total Bill Amount: Rs.2100.00
```

```
Menu:
```

1. Insert Customer Details
2. Update Customer Details
3. Calculate Bill
4. Exit

```
Enter your choice (1/2/3/4): 3
Enter the Meter Number for the customer: 1235
Total Bill Amount: Rs.2163.00
```

```
Menu:
```

1. Insert Customer Details
2. Update Customer Details
3. Calculate Bill
4. Exit

```
Enter your choice (1/2/3/4): 2
Enter the Meter Number for the customer you want to update: 1234
Enter the new Previous Reading: 987
Enter the new Current Reading: 1187
Customer details updated successsfully.
```

```
Menu:
```

1. Insert Customer Details
2. Update Customer Details
3. Calculate Bill
4. Exit

```
Enter your choice (1/2/3/4): 3
Enter the Meter Number for the customer: 1234
Total Bill Amount: Rs.1000.00
```

Menu:

1. Insert Customer Details
2. Update Customer Details
3. Calculate Bill
4. Exit

Enter your choice (1/2/3/4): 1

Enter Tariff Code (LT1/LT2): LT1

Enter customer name: Lokesh

Enter meter number: 7865

Enter previous reading: 3456

Enter current reading: 1234

Current reading should be greater than previous reading.

Menu:

1. Insert Customer Details
2. Update Customer Details
3. Calculate Bill
4. Exit

Enter your choice (1/2/3/4): 4

Menu:

1. Insert Customer Details
2. Update Customer Details
3. Calculate Bill
4. Exit

Enter your choice (1/2/3/4): 1

Enter Tariff Code (LT1/LT2): AB

Enter correct Tariff code.