**Assignment #9:**

You finally secured a permanent job with Kenya Power and Lighting Company (KPLC) as a Python and Database programmer. As a company, KPLC recently experienced exponential growth due to the Rural Electrification in Kenya. A Lot of homes in Kenya, both in Urban and Rural areas, got the KPLC services. It has been hectic with the old billing system and the consumption and billing has been a little inaccurate. As a new Programmer, there is lots of hope in the design of the new system you are working on. The management and the higher echelons in the company cannot wait long to see the product you come up with.

**The following are the charges for electricity per kilowatt.**

1. 1 Kilowatt of electricity is KE sh. 10.00 in Rural Area (residential)
2. 1 Kilowatt of electricity is KE sh. 15.00 in Urban Area (residential)
3. 1 Kilowatt of electricity is KE sh. 20.00 in Rural Area (Light Industrial)
4. 1 Kilowatt of electricity is KE sh. 23.00 in Urban Area (Light Industrial)
5. 1 Kilowatt of electricity is KE sh. 25.00 in Urban Area (light Industrial)
6. 1 Kilowatt of electricity is KE sh. 26.00 in Rural Area (light Industrial)
7. 1 Kilowatt of electricity is KE sh. 27.00 in Rural Area (Heavy Industrial)
8. 1 Kilowatt of electricity is KE sh. 30.00 in Urban Area (Heavy Industrial)

**As a requirement:**

1. Your program needs to enter the customer’s name whether residential/urban/rural/light Industrial or Heavy Industrial.
2. Need to input the Billing Address/ City/ Town and County
3. Calculate the total cost per month of electricity consumed
4. Print out a monthly receipt of the Kilowatts consumed, taxes paid, whether it is residential, or an industrial. Format your output as you would see it on your electric bill at home.

**The following are the conditions for the charges and the billing for the KPLC company.**

State VAT Tax (18%) charges on Industrial in Urban Areas

State VAT Tax (15%) charges on Industrial in Rural Areas

State VAT Tax (10%) charges on residential

Every city in the country charges a nominal tax of 4% on the total electricity consumed regardless. We call it city tax - 4%.

**Conditions:**

1. If monthly electric consumption is between 200kw and 450 kw then give a discount of 3%.
2. If monthly electric consumption is between 451kw and 500 kw then give a discount of 5%.
3. If monthly electric consumption is between 501kw and 601 kw then give a discount of 7%.
4. If monthly electric consumption is between 602kw and 701 kw then give a discount of 9%.
5. If monthly electric consumption is between 702kw and 801 kw then give a discount of 11%.
6. If monthly electric consumption is over 802 kw and above then give a discount of 12%.

Create the program to routinely insert into the file (electricity.txt) the details and routinely write the same into a MySQL database Electricity DB.

Make the Electricity.txt readable and be able to display the formatted output on the screen.

Make the Electricity MySQL database readable and be able to display the formatted output on the screen and archived records displayable and CRUD (Create/Read/Updated/Deleted).

**Assignment #10:**

Now, copy or type and run this code below. See what it produces. The question to ask yourself: Can I ingest the produced **Employee\_Records.csv** file and load it to a MySQL database (Employees)? That is your challenge. All the code is provided except for the last bit. Finish that bit by creating a MySQL database (Employee) and a table (Employee\_Records), call the Table Employee\_Records, load the csv into the table and display the records. Please capture screenshots of the displayed records, **Update** the records in the table, **Delete** option for deleting records and Insert option. Share and upload to GitHub then share with me the link to the code**.**

**import csv**

**from faker import Faker**

**record\_count = 100**

**fake = Faker()**

**with open('Employee\_Records.csv', 'w', newline= '') as csvfile:**

**fieldnames = ['First\_Name', 'Last\_Name', 'SSN', 'Email\_address', 'Phone', 'Address', 'City', 'state', 'zipcode', 'country']**

**writer = csv.DictWriter(csvfile, fieldnames=fieldnames)**

**writer.writeheader()**

**#**

**for i in range(record\_count):**

**writer.writerow({**

**'First\_Name': fake.first\_name(),**

**'Last\_Name': fake.last\_name(),**

**'SSN': fake.ssn(),**

**'Email\_address': fake.email(),**

**'Phone': fake.phone\_number(),**

**'Address': fake.street\_address(),**

**'City': fake.city(),**

**'state': fake.state(),**

**'zipcode': fake.zipcode(),**

**'country': fake.country()**

**})**