Ex.No: 01	ELECTRICITY BILL GENERATION
Date: 09.07.19	

Aim:

To develop a Java console application to generate Electricity Bill.

Requirement:

Develop a Java application to generate Electricity bill. Create a package billings and Create a class ElectricityBill with the following members: Consumer no., consumer name, previous month reading, current month reading, type of EB connection (i.e. domestic or commercial). Declare constructors to pass the initial attributes. Declare and define the following member functions. getData() - to get attributes from the user. printData() - to print the data. computeBillAmount() - to calculate and print the bill amount in appropriate format. Compute the bill amount using the following tariff.

If the type of the EB connection is domestic, calculate the amount to be paid as follows:

First 100 units - Rs. 1 per unit
101-200 units - Rs. 2.50 per unit
201 -500 units - Rs. 4 per unit
501 units - Rs. 6 per unit

If the type of the EB connection is commercial, calculate the amount to be paid as follows:

First 100 units - Rs. 2 per unit
101-200 units - Rs. 4.50 per unit
201 -500 units - Rs. 6 per unit
501 units - Rs. 7 per unit

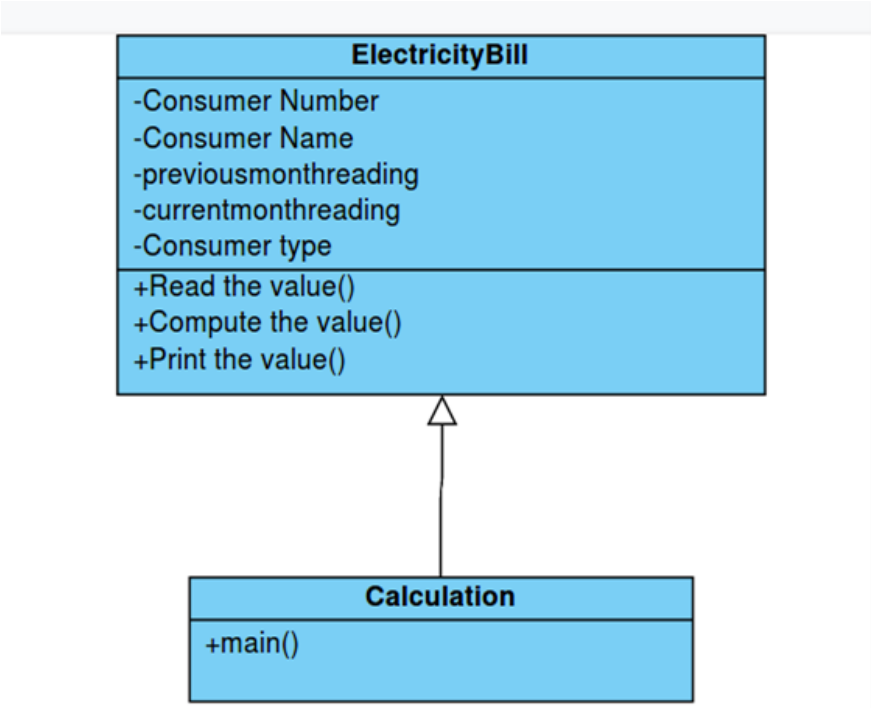
Create a class Calculation1 with main function. Create the object of EBill class, get the data and display the bill amount by calling computeBillAmount() function.

Algorithm:

STEP 1: Declare a Package Billings.
STEP 2: Declare a classname ElectricityBill.
STEP 3: Declare a constructor with initial attribute.
STEP 4: Declare a data member and member function.
STEP 5: Declare a class Calculation1 with static main function.
STEP 6: Crete object of type Consumer no., Consumer name, previous month reading, current month reading,Consumer type.

STEP 7: Get input from user.
STEP 8: Calculate the total ElectricityBill.
STEP 9: Display the result.

Class Diagram:



Program:

ElectricityBill.java

```
/*
 * Program to perform ElectricityBill
 * By Faizul
 * faizulsmart10@gmail.com
 */

package billings;

import java.util.Scanner;

public class ElectricityBill{

        private long consumernumber;
        private String consumername;
        private long previousmonthreading;
        private long currentmonthreading;
        private String consumertype;
```

```
public ElectricityBill()
{
        this.consumernumber=5016;
        consumername="faizul";
        previousmonthreading=1000;
        currentmonthreading=2000;
        consumertype="domestic";

}

public ElectricityBill(long number,String name,long pmr,long cmr,String type)
{
        this.consumernumber=number;
        consumername=name;
        previousmonthreading=pmr;
        currentmonthreading=cmr;
        consumertype=type;
}

public void getData()
{
        Scanner sc=new Scanner(System.in);

        System.out.printf("\n%40s","BILLING INFORMATION");
        System.out.print("\nEnter the consumer number:");
        this.consumernumber=sc.nextLong();
        System.out.print("Enter the consumer name:");
        consumername= sc.next();
        System.out.print("Enter the previousmonthreading in watts:");
        previousmonthreading=sc.nextLong();
        System.out.print("Enter the currentmonthreading in watts:");
        currentmonthreading=sc.nextLong();
        System.out.print("Enter the cutomer type(domestic or commercial)");
        consumertype=sc.next();

}
public void printData()
{
        System.out.printf("Consumer Number:"+consumernumber);
        System.out.printf("ConsumerName:"+consumername);
        System.out.printf("Previousmonthreading:"+previousmonthreading);
        System.out.printf("Currentmonthreading:"+currentmonthreading);
        System.out.printf("ConsumerType:"+consumertype);
}

        public void computeBillAmount()
        {
           double unit=currentmonthreading-previousmonthreading;
           String divider="----------------------------------------";

                if(consumertype.equals("domestic"))
                {
```

```
                        if((unit>=0)&& (unit<=100))
                        {
                                unit=unit*1.0;
                        }else if((unit>=101)&&(unit<=200))
                        {
                                unit=unit*2.50;
                        }else if((unit>=201)&&(unit<=500))
                        {
                                unit=unit*4.0;
                        }else
                        {
                                unit=unit*6.0;
                        }
                }else if(consumertype.equals("commercial"))
                {
                        if((unit>=0)&& (unit<=10))
                        {
                                unit=unit*2.0;
                        }else if((unit>=101)&&(unit<=200))
                        {
                                unit=unit*4.50;
                        }else if((unit>=201)&&(unit<=500))
                        {
                                unit=unit*6.0;
                        }else
                        {
                                unit=unit*7.0;
                        }

                }

                    System.out.print("\n"+divider+"\n");
                    System.out.printf("%40s", "ELECTRICITY BILL");
                    System.out.print("\n"+divider+"\n");
                    this.printData();
                    System.out.printf("%29s%8.2f Rs", "Total Amount:",unit);
                    System.out.print("\n"+divider+"\n");

        }

    }
```

Calculation.java

```
package billings;

public class calculation {

    public static void main(String[]args) {
```

```
        ElectricityBill B1,B2;

        B1=new ElectricityBill(5016,"faizul",1000,2000,"domestic");
        B1.printData();

        B2=new ElectricityBill();
        B2.getData();

        B1.computeBillAmount();
        B2.computeBillAmount();
    }

}
```

Output:

```
Consumer Number:5016
ConsumerName:faizul
Previousmonthreading:1000
Currentmonthreading:2000
ConsumerType:domestic

                    BILLING INFORMATION
Enter the consumer number:5000
Enter the consumer name:taufik
Enter the previousmonthreading in watts:1500
Enter the currentmonthreading in watts:2000
Enter the cutomer type(domestic or commercial):domestic
--------------------------------------------------------------------------------
                        ELECTRICITY BILL
--------------------------------------------------------------------------------
Consumer Number:5016
ConsumerName:faizul
Previousmonthreading:1000
Currentmonthreading:2000
ConsumerType:domestic
                Total Amount: 6000.00 Rs
--------------------------------------------------------------------------------

--------------------------------------------------------------------------------
                        ELECTRICITY BILL
--------------------------------------------------------------------------------
Consumer Number:5000
ConsumerName:taufik
Previousmonthreading:1500
Currentmonthreading:2000
ConsumerType:domestic
                Total Amount: 2000.00 Rs
--------------------------------------------------------------------------------
```

Result:

Thus a Java console application to generate Electricity Bill is verified with its output.