EXP NO :1
DATE:9.7.2019

JAVA APPLICATION FOR ELECTRICITY BILL

AIM:

To develop a java console application to generate electricity bill

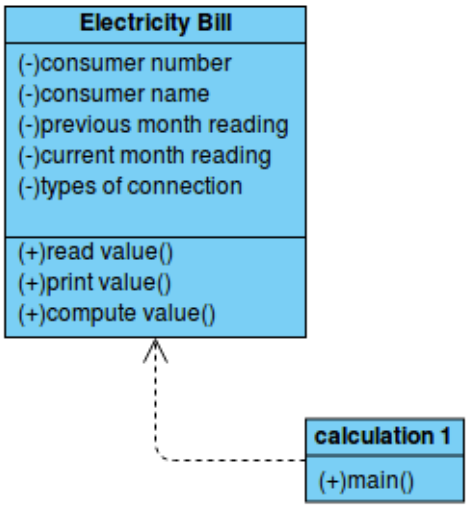
REQUIREMENT :

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: create a package billings
Step 2: Declare a class name electricity bill
Step 3: Delcare a constructor with initial attributes
Step 4: delcare get data for the consumer no, consumer name ,previous months reading, current months reading and type(commerical or domestic)
Step 5: declare a class calculation with static main function
Step 6: compute the data from the user
Step 7: print the compute data

CLASS DIGRAM



PROGRAM:

Calculation.java

```
/***lokesh
*@lokesh
*lokeshwarn2000
*/

package billings;

import java.util.Scanner;

public class ElectricityBill {
		private long consumernumber;
		private String consumername;
		private double previousmonthreading;
		private double currentmonthreading;
		private String consumertype;

		/***
		 * To create Electricitybill with initial values
		 */
		public ElectricityBill()
		{
			this.consumernumber=5500;
			this.consumername="lokesh";
			this.previousmonthreading=1500;
			this.currentmonthreading=2500;
			this.consumertype="domestic";
		}

/***
 *
 * @param number
```

```
 * @param name
 * @param preading
 * @param creading
 * @param type
 */
public ElectricityBill(long number,String name,double preading,double creading,String type)
{
                                this.consumernumber=number;
                                this.consumername=name;
                                this.previousmonthreading=preading;
                                this.currentmonthreading=creading;
                                this.consumertype=type;
}
  /**
   * to get billing information from the
   */
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:");
                previousmonthreading=sc.nextDouble();
                System.out.print("Enter the currentmonthreading:");
                currentmonthreading=sc.nextDouble();
                System.out.println("enter the consumer type(commerical or domestic):");
                consumertype=sc.next();

}
/*****
 * To print the bill details
 */
public void printData()
{
System.out.printf("%-40s%40s\n", "Consumer
Number:"+consumernumber,"ConsumerName:"+consumername);
System.out.printf("%s%fwatts    %s%f%s\n",
"Previousmonthreading:",previousmonthreading,"currentmonthreading:",
+currentmonthreading,"watts");
System.out.printf("%-40s","consumertype"+consumertype);

}
/***
 * To calculate the bill amount
 */
public void computeBillAmount()
{
                double totalAmount=-1;
```

```
		double unitsconsumed=currentmonthreading-previousmonthreading;
		String
divider="-------------------------------------------------------------------------------";


		if(consumertype.equals("domestic"))
		{if((unitsconsumed>=0)&&(unitsconsumed<=100))
				{
					totalAmount=unitsconsumed*1.0;
				}else if((unitsconsumed>=101)&&(unitsconsumed<=200))
					{
					totalAmount=unitsconsumed*2.50;
					}else
if((unitsconsumed>=201)&&(unitsconsumed<=500))
					{
						totalAmount=unitsconsumed*4.0;
					}else
					{
				totalAmount=unitsconsumed*6.0;
					}
			}

		else if(consumertype.equals("commerical"))
		{
			if((unitsconsumed>=0)&& (unitsconsumed<=100))
			{
				totalAmount=unitsconsumed*2.0;
			}else if((unitsconsumed>=101)&&(unitsconsumed<=200))
			{
				totalAmount*=unitsconsumed*4.50;
			}else if((unitsconsumed>=201)&&(unitsconsumed<=500))
			{
				totalAmount=unitsconsumed*6.0;
			}else
			{
				totalAmount=unitsconsumed*7.0;
			}
		}
		System.out.print("\n"+divider+"\n");
		System.out.printf("%40s", "electricitybill");
		System.out.print("\n"+divider+"\n");
		this.printData();
		System.out.printf("%29s%8.2f Rs", "Total Amount:",totalAmount);
		System.out.print("\n"+divider+"\n");

		}
		}
```

Electricity bill. java

```
	/******
	* To calculate the electricitybill amount
	*
```

```
 * Developed by
 * LOKESH J
 *
 *
 *
 */
package billings;

public class calculation1 {

	public static void main(String[] args) {
		ElectricityBill bill1,bill2;

		bill1=new ElectricityBill(2001,"lokesh",10,25,"domestic");
		bill1.printData();
		bill2=new ElectricityBill();
		bill2.getData();
		bill1.computeBillAmount();
		bill2.computeBillAmount();
	}

}
```

OUTPUT

```
Consumer Number:2001
ConsumerName:lokesh
Previousmonthreading:10.000000watts    currentmonthreading:25.000000watts
consumertypedomestic
                    BILLING INFORMATION
Enter the consumer number:2019
Enter the consumer name:lk
Enter the previousmonthreading:50
Enter the currentmonthreading:45
enter the consumer type(commerical or domestic):
domestic

------------------------------------------------------------------------------
------
                         electricitybill
------------------------------------------------------------------------------
------
Consumer Number:2001
ConsumerName:lokesh
Previousmonthreading:10.000000watts    currentmonthreading:25.000000watts
consumertypedomestic                                  Total Amount:
15.00 Rs
------------------------------------------------------------------------------
------

------------------------------------------------------------------------------
------
                         electricitybill
------------------------------------------------------------------------------
------
Consumer Number:2019
ConsumerName:lk
```

```
Previousmonthreading:50.000000watts    currentmonthreading:45.000000watts
consumertypedomestic                                  Total Amount:
-30.00 Rs
------------------------------------------------------------------------
------
```

RESULT

Thus a java console application program is written and output is verified