

Don Bosco Institute of Technology, Kurla(W)
Department of Electronics and Tele-Communication Engineering
ECL304 - Skill Lab: C++ and Java Programming
Sem III
2021-22

| Practice Problems – Light Bill Program | |
|--|--------------------------------|
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| Roll No: | 39 |

1. Write a C++ and Java program to input electricity unit charge and calculate the total electricity bill

according to the given condition:

For first 50 units Rs. 0.50/unit

For next 100 units Rs. 0.75/unit

For next 100 units Rs. 1.20/unit

For unit above 250 Rs. 1.50/unit

An additional surcharge of 20% is added to the bill.

C++ Program:

/*Write a C++ program to input electricity unit charge

and calculate the total electricity bill

according to the given condition:

For first 50 units Rs. 0.50/unit

For next 100 units Rs. 0.75/unit

For next 100 units Rs. 1.20/unit

For unit above 250 Rs. 1.50/unit

An additional surcharge of 20% is added to the bill.

***/**

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```
#include <iostream>
```

```
#include <iomanip> //this is for setprecision() function which helps in telling the  
compiler that how many places after the decimal point the answer should be  
printed
```

```
#include <cstdio> //it helps to use the C language syntax
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    int units_consumed; //variable declaration
```

```
    float amt, total_amt, sur_charge; //variable declaration
```

```
    cout << "Enter total units consumed: "; //asking for user input
```

```
    cin >> units_consumed; //storing the user input
```

```
/* Calculating the electricity bill on the basis of units consumed  
   with the help of given limiting conditions */
```

```
if(units_consumed <= 50)
```

```
{
```

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```
    amt = units_consumed * 0.50;
}

else if(units_consumed <= 150)
{
    amt = 25 + ((units_consumed-50) * 0.75);
}

else if(units_consumed <= 250)
{
    amt = 100 + ((units_consumed-150) * 1.20);
}

else
{
    amt = 220 + ((units_consumed-250) * 1.50);
}

sur_charge = amt * 0.20;

total_amt = amt + sur_charge; // adding an extra 20% charge on the
electricity bill


//cout << "Total bill is = Rs. " << total_amt;

// cout << "Electricity Bill = Rs. " << setprecision (2) << fixed << total_amt;
```

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```
printf("Electricity Bill = Rs. %.2f", total_amt);  
  
return 0;  
}
```

Output:

 C:\Users\Shreyas\Documents\SEM 3 C++ codes\Practice problem 1.exe

Enter total units consumed: 239

Electricity Bill = Rs. 248.16

Process exited after 9.415 seconds with return value 0

Press any key to continue . . .

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Java Program:

/*Write a Java program to input electricity unit charge and calculate the total electricity bill

according to the given condition:

For first 50 units Rs. 0.50/unit

For next 100 units Rs. 0.75/unit

For next 100 units Rs. 1.20/unit

For unit above 250 Rs. 1.50/unit

An additional surcharge of 20% is added to the bill.

*/

```
package javaprogramming2;
```

```
import java.util.Scanner;
```

```
public class LightBill {
```

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

```
    {
```

```
        int units_consumed;
```

```
        float amt, total_amt, sur_charge;
```

```
        Scanner sc = new Scanner(System.in);
```

```
        System.out.println("Enter total units consumed: ");
```

```
        units_consumed=sc.nextInt();
```

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```
if(units_consumed <= 50)
{
    amt = (float) (units_consumed * 0.50);
}

else if(units_consumed <= 150)
{
    amt = (float) (25 + ((units_consumed-50) * 0.75));
}

else if(units_consumed <= 250)
{
    amt = (float) (100 + ((units_consumed-150) * 1.20));
}

else
{
    amt = (float) (220 + ((units_consumed-250) * 1.50));
}

sur_charge = (float) (amt * 0.20);
```

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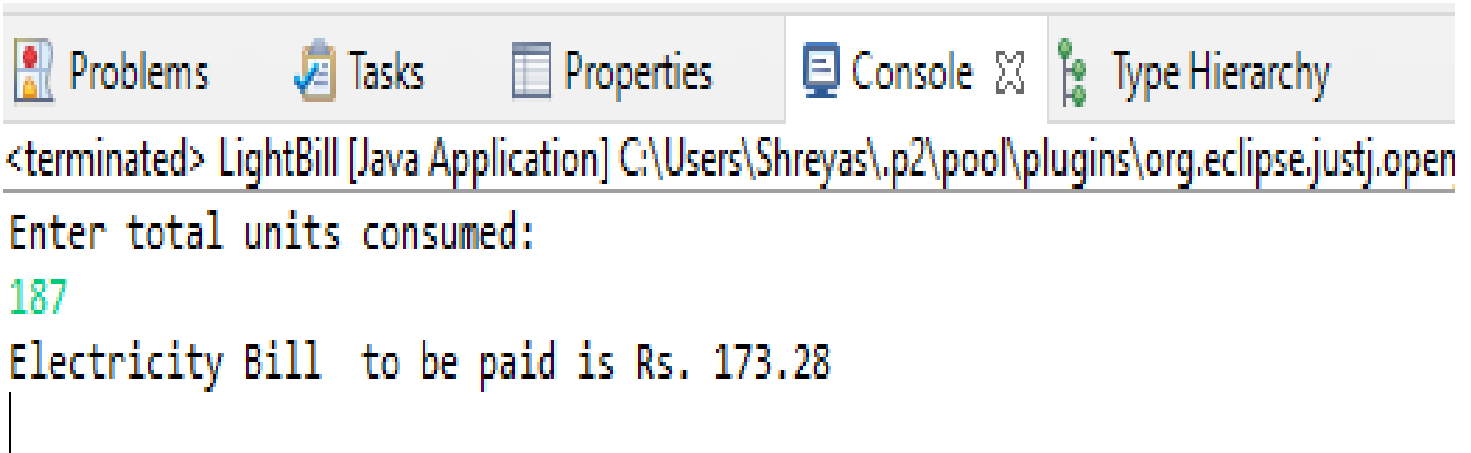
```
total_amt = amt + sur_charge;
```

```
System.out.println("Electricity Bill to be paid is Rs. "+ total_amt);
```

```
}
```

```
}
```

Output:

The screenshot shows the Eclipse IDE's console window. At the top, there is a toolbar with icons for Problems, Tasks, Properties, Console, and Type Hierarchy. Below the toolbar, the console displays the following text: "<terminated> LightBill [Java Application] C:\Users\Shreyas\.p2\pool\plugins\org.eclipse.justj.open", "Enter total units consumed:", "187" (in green), "Electricity Bill to be paid is Rs. 173.28", and a vertical cursor line at the end.

```
<terminated> LightBill [Java Application] C:\Users\Shreyas\.p2\pool\plugins\org.eclipse.justj.open
Enter total units consumed:
187
Electricity Bill to be paid is Rs. 173.28
|
```