Name: - Sakshi Vadiraj Kaveri
Roll no- 33

C++ code:

/*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.

*/

ALGORITHM:

1) Declare variables unit, amt, total_amt, sur_charge and take input from the user.
2) Calculate the electricity bill using if-else ladder.
3) Calculate the total amount by using amount+sur_charge.
4) Display the output on screen.

PROGRAM:

```
#include <iostream>
#include <iomanip>  //this is for setpricision() function
#include<cstdio>    //it helps to use the C language syntax
using namespace std;
int main()

{
   int unit;
   float amt, total_amt, sur_charge;
   /* Input unit consumed from user */
```

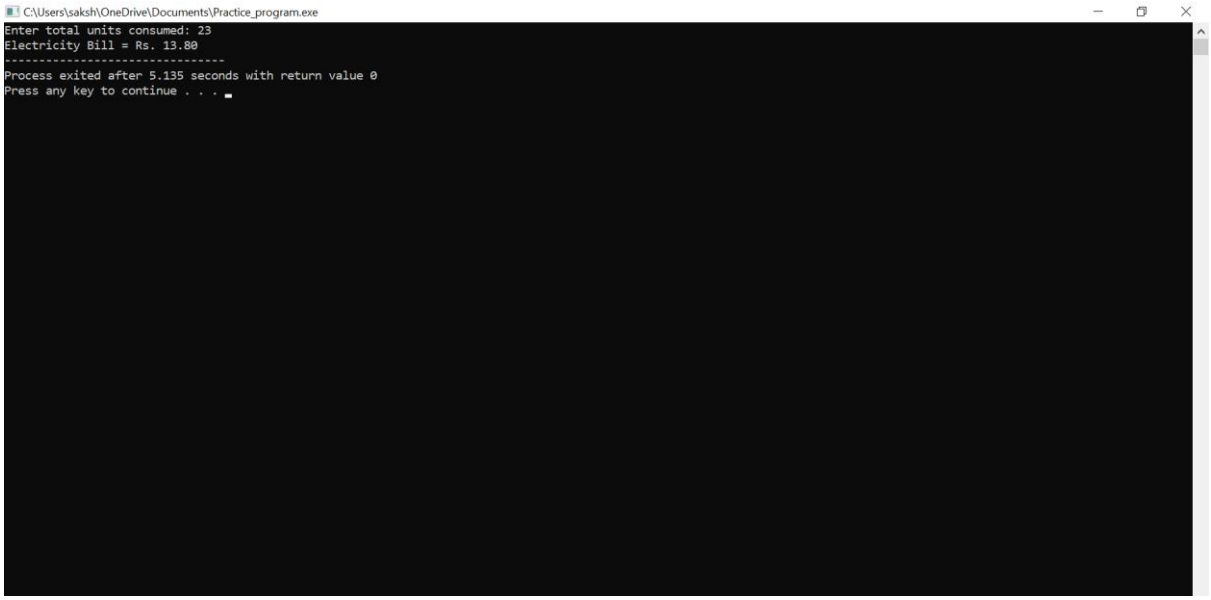
```
cout << "Enter total units consumed: ";

cin >> unit;

/* Calculate electricity bill according to given conditions */

if(unit <= 50)

{

   amt = unit * 0.50;

}

else if(unit <= 150)

{

   amt = 25 + ((unit-50) * 0.75);

}

else if(unit <= 250)

{

   amt = 100 + ((unit-150) * 1.20);

}
```

```
  else

  {

     amt = 220 + ((unit-250) * 1.50);

  }

  /*

   * Calculate total electricity bill

   * after adding surcharge

   */

  sur_charge = amt * 0.20;

  total_amt  = amt + sur_charge;

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

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

          printf("Electricity Bill = Rs. %.2f", total_amt);

  return 0;

}
```

INPUT GIVEN: 23

OUTPUT SCREENSHOT:

Name: - Sakshi Vadiraj Kaveri
Roll no- 33



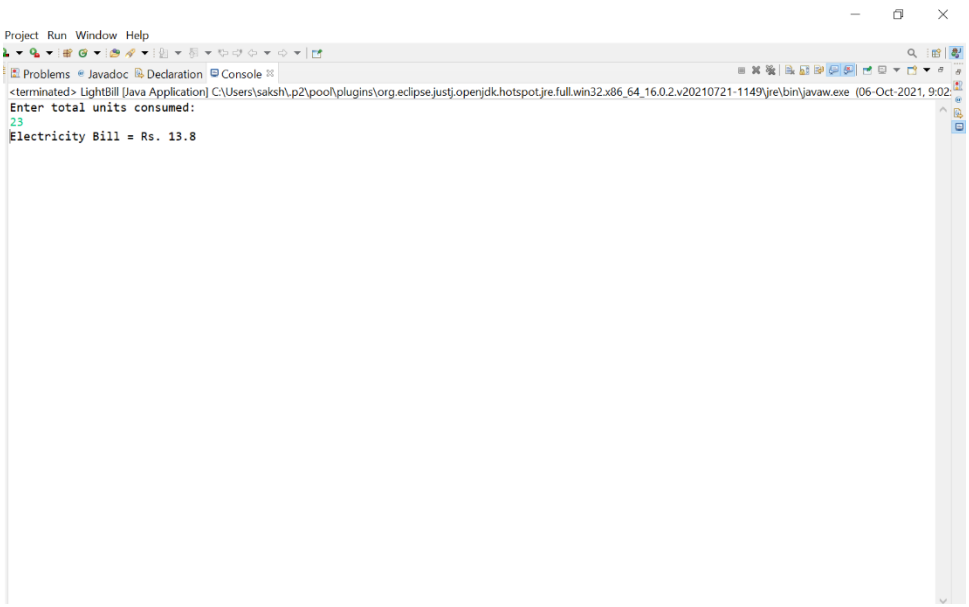
JAVA Code:

```
/*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.
        */
public class LightBill {
        public static void main(String [] args)
        {
           int unit;
           float amt, total_amt, sur_charge;
           //needed for user input
           Scanner sc = new Scanner(System.in);
           /* Input unit consumed from user */
           System.out.println("Enter total units consumed: ");
           unit=sc.nextInt();
           /* Calculate electricity bill according to given conditions */
           if(unit <= 50)
```

```
        {
           amt = (float) (unit * 0.50);
        }
        else if(unit <= 150)
        {
           amt = (float) (25 + ((unit-50) * 0.75));
        }
        else if(unit <= 250)
        {
           amt = (float) (100 + ((unit-150) * 1.20));
        }
        else
        {
           amt = (float) (220 + ((unit-250) * 1.50));
        }
        /*
         * Calculate total electricity bill
         * after adding surcharge
         */
        sur_charge = (float) (amt * 0.20);
        total_amt  = amt + sur_charge;
        System.out.println("Electricity Bill = Rs. "+ total_amt);
    }
}
```

INPUT GIVEN: 23

OUTPUT SCREENSHOT:



Q2) Write a C++ program to create an Employee class with data members:

Employee number, Employee name, Basic, DA, IT, Net Salary

class has 3 methods, one method to get employee details for name, ID and basic salary

other method to calculate net salary using formula

DA=1.32*basic;

IT=0.30*(basic+DA);

net_sal=(basic+DA)-IT;

third method to print emp name, ID, net salary alongwith all salary components

Use the concept of array to enter data for minimum 3 Employees.

ALGORITHM:

1) Declare a class Employee, create an array for minimum 3 employees and create variables employee number, employee name, DA, IT, Basic, Net Salary
2) Declare three methods get_data, calc(), print_data().
3) Use formula for DA=1.32*Basic, IT=0.30*(Basic+DA), Net_Salary=(Basic+DA)-IT for calculation.
4) Input data from user.
5) Display the output for three employees using loop.

Program:

C++ CODE:

```
#include<iostream>
```

```
#include<string>
using namespace std;
class Employee
{
	int emp[100];
	int emp_num;
	string name;
	float Basic;
	float DA;
	float IT;
	float Net_Salary;
	public:
		void get_data(){
		cout<<"Enter Employee name "<<endl;
		cin>>name;
		cout<<"Enter Employee ID Number "<<endl;
		cin>>emp_num;
		cout<<"Enter Employee Basic salary "<<endl;
		cin>>Basic;
		}
		void calc();
		void print_data();
};
void Employee::calc()
{
```

```
        DA=(1.32)*(Basic);

        IT=(0.30)*(Basic+DA);

        Net_Salary= (Basic+DA)-(IT);

}

void Employee::print_data()

{

                cout<<"\nThe name of Employee is "<<name<<endl;

                cout<<"The ID Number of Employee is "<<emp_num<<endl;

                cout<<"The Basic Salary of Employee is "<<Basic<<endl;

                cout<<"The net salary of the Employee is
"<<Net_Salary<<endl<<endl;

}

int main()

{

        Employee obj;

        for(int i=0;i<3;i++)

        {

                obj.get_data();

                obj.calc();

                obj.print_data();

        }

        return 0;

}
```

OUTPUT SCREENSHOT:

Name: - Sakshi Vadiraj Kaveri
Roll no- 33

```
Enter Employee name
Sakshi
Enter Employee ID Number
7
Enter Employee Basic salary
150000

The name of Employee is Sakshi
The ID Number of Employee is 7
The Basic Salary of Employee is 150000
The net salary of the Employee is 243600

Enter Employee name
Arun
Enter Employee ID Number
12
Enter Employee Basic salary
45000

The name of Employee is Arun
The ID Number of Employee is 12
The Basic Salary of Employee is 45000
The net salary of the Employee is 73080

Enter Employee name
Sanket
Enter Employee ID Number
10
Enter Employee Basic salary
50000

The name of Employee is Sanket
The ID Number of Employee is 10
The Basic Salary of Employee is 50000
The net salary of the Employee is 81200


--------------------------------
Process exited after 33.92 seconds with return value 0
Press any key to continue . . .
```

JAVA CODE:

```
import java.util.Scanner;

public class Employee {
	Scanner sc=new Scanner(System.in);
	String name;
	int emp_num;
	float Basic;
	float DA;
	float IT;
	float Net_Salary;
	void get_data()
	{
		System.out.println("Enter Employee name ");
	    name=sc.next();
		System.out.println("Enter Employee ID Number ");
		emp_num=sc.nextInt();
		System.out.println("Enter Employee Basic Salary ");
		Basic=sc.nextFloat();
	}
	void calc()
	{
		DA=(float) (1.32)*(Basic);
		IT=(float) (0.30)*(Basic+DA);
		Net_Salary=(float) (Basic+DA)-(IT);
	}
	void display() {
		System.out.println("The Employee name is "+name);
		System.out.println("The Employee ID Number is "+emp_num);
		System.out.println("The Employee Basic Salary is "+Basic);
		System.out.println("The Employee Net Salary is "+Net_Salary);
};
	public static void main(String[] args) {
	Employee obj=new Employee();
	for(int i=0;i<3;i++) {
		obj.get_data();
		obj.calc();
```

```
            obj.display();
        }


        }
}
```

Output Screenshot: