

Report on

Carbon Footprint Calculator

by

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Introduction:

- In a Carbon Footprint Calculator we calculate various factors contributing to global warming in the terms of their CO₂ equivalent measured in Tons.
- So, to calculate an individual's carbon footprint we need to investigate various factors in his/her life to find out what ultimately contributes to global warming.
- We decided to gather these factors and make an easy to use program that would do the work for you and directly give you your Total Carbon Footprint.

Problem Statement:

Write a program to calculate Carbon Footprint for an individual and display it.

Flow of the project in detail:

First we Start. Then make a header file of .h extension and write the formulas for all the factors i.e. LPG, electricity, trash, private vehicle, bus, train, plane, hotel all in separate functions and return the corresponding.

In the main program #include the header file you made. We need to make different classes for household factors and personal factors, make the getters and setters for each factor. Then make functions which return the value of CO₂ emissions in their corresponding classes. Then make classes called Total and add the total Household and Personal Emissions in their corresponding classes.

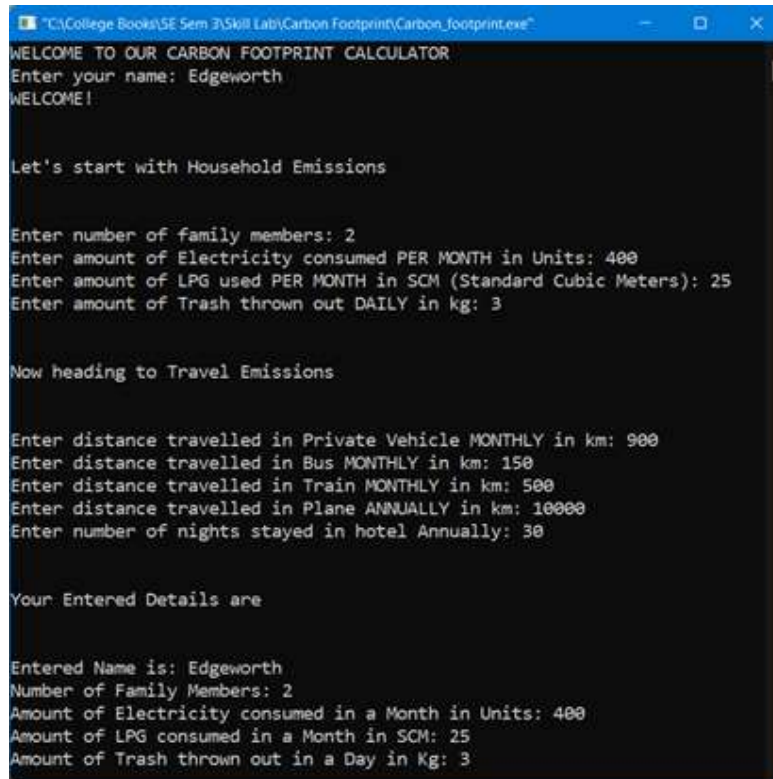
In the main function create objects of all three classes Household, Personal and Total. Take input for all the factors and Name and Family members using setters. In the household class, divide the total emissions by the

number of Family members to account for individual emissions. Then display all the individual emission from each factor. Display the resultant Total CO2 footprint in Tons

IDE:

Code Blocks ide is easily accessible .It provides a good environment to execute the code and proper debugging of code is also available. The Ide contains various different types of compiler to compile the program in proper way. We have used the mingw-32 compiler to compile our program in the proper way.

Screenshot the output:



The screenshot shows a Windows application window titled "C:\College Books\SE Sem 3\Skill Lab\Carbon Footprint\Carbon_footprint.exe". The application is a text-based interface for a carbon footprint calculator. It starts with a welcome message and asks for the user's name, which is "Edgeworth". It then prompts for household emissions data: number of family members (2), electricity consumed per month (400 units), LPG used per month (25 SCM), and trash thrown out daily (3 kg). Next, it asks for travel emissions data: distance travelled in a private vehicle monthly (900 km), bus monthly (150 km), train monthly (500 km), plane annually (10000 km), and nights stayed in a hotel annually (30). Finally, it displays a summary of the entered details.

```
"C:\College Books\SE Sem 3\Skill Lab\Carbon Footprint\Carbon_footprint.exe"
WELCOME TO OUR CARBON FOOTPRINT CALCULATOR
Enter your name: Edgeworth
WELCOME!

Let's start with Household Emissions

Enter number of family members: 2
Enter amount of Electricity consumed PER MONTH in Units: 400
Enter amount of LPG used PER MONTH in SCM (Standard Cubic Meters): 25
Enter amount of Trash thrown out DAILY in kg: 3

Now heading to Travel Emissions

Enter distance travelled in Private Vehicle MONTHLY in km: 900
Enter distance travelled in Bus MONTHLY in km: 150
Enter distance travelled in Train MONTHLY in km: 500
Enter distance travelled in Plane ANNUALLY in km: 10000
Enter number of nights stayed in hotel Annually: 30

Your Entered Details are

Entered Name is: Edgeworth
Number of Family Members: 2
Amount of Electricity consumed in a Month in Units: 400
Amount of LPG consumed in a Month in SCM: 25
Amount of Trash thrown out in a Day in Kg: 3
```

```
Select "C:\College Books\SE Sem 3\Skill Lab\Carbon Footprint\Carbon_footprint.exe"
Entered Name is: Edgeworth
Number of Family Members: 2
Amount of Electricity consumed in a Month in Units: 400
Amount of LPG consumed in a Month in SCM: 25
Amount of Trash thrown out in a Day in Kg: 3
Distance Travelled by Personal Vehicle Monthly is: 900
Distance Travelled by Bus Monthly is: 150
Distance Travelled by Train Monthly is: 500
Distance Travelled by Plane Monthly is: 10000
Nights stayed in Hotel Annually: 30

Your CO2 Emissions for Individual Factors are

For Electricity: 4968 kg/yr
For LPG: 187500 kg/yr
For Trash: 344.925 kg/yr
For Personal Vehicle: 1512 kg/yr
For Bus: 23.4 kg/yr
For Train: 180 kg/yr
For Plane: 1700 kg/yr
For Hotel: 885.9 kg/yr

Finally...

Total Carbon Footprint is: 100.708 Tons of CO2

Process returned 0 (0x0)   execution time : 78.562 s
Press any key to continue.
```