Assessment Submission Form

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Assessment Title	Carbon Footprint Calculator
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Carbon Footprint Calculator

Introduction

The **Carbon Footprint Calculator** is a Python-based tool designed to estimate an individual's carbon emissions based on their electricity consumption, fuel usage, and flight travel. By providing monthly usage data, the calculator computes the total carbon footprint and offers suggestions for reducing emissions.

Various factors are considered to get a proper output. That how much carbon is generated or emitted throughout the year.

Overall, In a simplest manner, one can consider it as a calculator that can be useful to do carbon calculation. To evaluate these various factors, like energy consumption, waste generated by the company, and different travel operations done by the company or for the company.

Features

- Takes user input for:
  - Monthly electricity usage (in kWh)
  - Monthly fuel consumption (in liters)
  - Monthly flight travel (in hours)
- Calculates carbon emissions using predefined emission factors.
- Displays a detailed breakdown of emissions from each category.
- Provides recommendations based on the total emissions.

Emission Factors Used

The program uses the following emission factors:

- **Electricity:** 0.300 kg CO_2 per kWh
- **Fuel:** 4.31 kg CO_2 per liter
- **Flight Travel:** 60 kg CO_2 per hour

Implementation

The calculator follows these steps:

1. Prompt the user for input values.
2. Sum the emissions from all sources.

3. Provide feedback based on the total emissions:

If emissions exceed 1000 kg CO2, suggest ways to reduce carbon footprint.

Otherwise, acknowledge an eco-friendly lifestyle.

Example Execution

User Input:

```
Enter your monthly electricity usage (in kWh): 500
Enter your monthly fuel consumption (in liters): 100
Enter your monthly flight travel (in hours): 5
```

Output:

```
Welcome to the Carbon Footprint Calculator!

Your Monthly Carbon Footprint:
Electricity: 150.00 kg CO2
Fuel: 431.00 kg CO2
Flight: 300.00 kg CO2
Total: 881.00 kg CO2

Great job! Keep up the eco-friendly lifestyle.
```

Enhancements and Future Work

- Add more emission categories (e.g., food consumption, public transport).
- Allow users to compare their footprint with the national/global average.
- Implement a graphical interface for better usability.
- Store historical data for trend analysis

Conclusion

The **Carbon Footprint Calculator** is a simple yet effective tool for raising awareness about individual carbon emissions. By encouraging users to monitor and reduce their footprint, it contributes to a more sustainable future.

Git Hub Repository Link

https://github.com/vrushitamalani/pythonfinalproject.git