LiftOffLab 🚀

Curious about how rockets soar?

LiftOffLab offers a simple yet insightful simulation of a rocket's first 10 seconds of vertical flight, balancing thrust against gravity.

This Python project models a rocket with constant thrust and accounts for gravitational force, illustrating how velocity and altitude change over time.

Ideal for beginners and enthusiasts, it provides a hands-on introduction to basic rocket flight dynamics without requiring advanced physics knowledge.

Features

- Simulates vertical rocket flight for 10 seconds
- Visualizes altitude and velocity changes with real-time plots
- Easy-to-understand physics using constant thrust and gravity
- Outputs a flight graph saved as an image for further analysis

Getting Started

Make sure you have Python installed along with the `matplotlib` library.

You can install the required package with:

```bash
pip install -r requirements.txt
```