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Lecture 6

Collisions and Conservation Laws

Python Concepts

- Advanced conditionals and loops for simulating complex scenarios.
- Introduction to basic data structures (dictionaries) for handling multiple objects.

Application

- Simulating elastic and inelastic collisions in one and two dimensions.
- Applying conservation laws (momentum and energy) to check the validity of the simulation.
- Visualization: Plotting the trajectories and velocities of colliding objects.
- Homework: Simulate a multi-object collision scenario.