Summary

In this section, we explored three essential data structures in Python: tuples, dictionaries, and sets. Each of these structures has unique characteristics and use cases:

- **Tuples** are immutable sequences, ideal for storing related data that should not be changed. They are defined using parentheses `()` and can be accessed via indexing.
- **Dictionaries** store data in key-value pairs, allowing for efficient retrieval based on unique keys. They are defined using curly braces `{}` and accessed using keys.
- **Sets** are collections of unique elements, useful for storing data without duplicates and performing set operations like union and intersection. They are defined using the `set()` function or curly braces `{}`.

We also compared these data structures with lists, highlighting their differences in terms of mutability, syntax, and operations. Additionally, we provided examples of using for loops to iterate over tuples, dictionaries, and sets, demonstrating their practical applications in Physics-related projects.

Understanding these data structures and their operations will enhance your ability to manage and manipulate data effectively in Python.