Sequence Datatypes and Object-Oriented Programming

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Sequences

Sequences in Python include lists, tuples, and strings. They support indexing, slicing, and iteration.

Mapping and Sets

Mappings like dictionaries store key-value pairs, whereas sets store unique, unordered elements.

Dictionaries

Dictionaries use hash tables for quick lookup, storing data as key-value pairs with methods like get() and pop().

Classes and Instances

Classes define object templates, while instances are specific objects created from a class. Classes use attributes and methods.

Inheritance

Inheritance allows a class to acquire properties and behaviors from another class, supporting code reuse and hierarchy creation.

Exception Handling

Python uses try-except blocks for handling errors, preventing program crashes and allowing controlled error responses.

Regular Expressions using 're' module

Regular expressions allow pattern matching and text searching using functions like re.search() and re.match().