Strings In Python

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Introduction to Strings

- A string is a sequence of characters and is one of the fundamental data types in Python.
- Strings are immutable, meaning they cannot be changed after creation.
- Syntax: Strings can be created using single ('), double ("), or triple quotes (''' , """) for multi-line strings.

String Indexing and Slicing

- Strings are indexed, meaning each character has a position (starting from 0).
- Slicing lets you extract parts of the string using [start : stop : step].

Useful String Methods

- Changing Case:
  - upper(), lower(), title(), and capitalize() to modify case.
- Finding Substrings:
  - find() and index() to locate substrings. find() returns -1 if not found, while index() raises an error.
- Replacing Parts of a String:
  - replace(old, new) replaces occurrences of a substring.
- Splitting and Joining:
  - split() divides a string into a list of substrings, join() combines a list into a single string.
- Trimming Whitespace:
  - strip(), lstrip(), and rstrip() remove whitespace from both, left, or right sides of a string, respectively.

Formatting Strings (F - strings)

- Embed expressions inside {} for easy variable interpolation.
  - name = "Anvesh"
  - age = 22
  - print(f"My name is {name} and I am {age} years old.")

- format() method:
  - template = "My name is { } and I am { } years old."
  - print(template.format(name, age))

- Use F-strings over + for cleaner and more efficient string concatenation.

Questions?