**Task-12: String Built-in Functions**

**Python String Built-In Functions**

Strings are one of the most commonly used data types in Python. Python provides many built-in functions (also called methods) that make working with strings easy and efficient.

Let’s Divide them into 4 categories:

**1. Case Conversion Built-in Functions :**

These functions are used to change the letter casing of a string.

* **upper()** – Converts all characters to uppercase.

text = "hello world"

print(text.upper()) # Output: HELLO WORLD

* **lower()** – Converts all characters to lowercase.

text = "HELLO WORLD"

print(text.lower()) # Output: hello world

* **capitalize()** – Converts the first character to uppercase and the rest to lowercase.

text = "python is FUN"

print(text.capitalize()) # Output: Python is fun

* **title()** – Converts the first character of each word to uppercase.

text = "welcome to python programming"

print(text.title()) # Output: Welcome To Python Programming

* **swapcase()** – Converts uppercase letters to lowercase and vice versa.

text = "PyThOn StRiNgS"

print(text.swapcase()) # Output: pYtHoN sTrInGs

**2. Trimming and Replace Built-in Functions :**

These help in removing unwanted spaces/characters and replacing substrings.

* **strip()** – Removes spaces (or specified characters) from both ends of the string.

text = " hello python "

print(text.strip()) # Output: "hello python"

* **lstrip()** – Removes spaces from the left side only.

text = " hello"

print(text.lstrip()) # Output: "hello"

* **rstrip()** – Removes spaces from the right side only.

text = "hello "

print(text.rstrip()) # Output: "hello"

* **replace(old, new)** – Replaces a substring with another.

text = "I love Java"

print(text.replace("Java", "Python")) # Output: I love Python

**3. Searching and Finding Built-in Functions :**

These functions help in searching for substrings inside a string.

* **find(substring)** – Returns the index of the first occurrence. Returns -1 if not found.

text = "learning python is fun"

print(text.find("python")) # Output: 9

print(text.find("java")) # Output: -1

* **rfind(substring)** – Returns the last occurrence index.

text = "python python python"

print(text.rfind("python")) # Output: 14

* **index(substring)** – Similar to find(), but raises an error if the substring is not found.

text = "hello world"

print(text.index("world")) # Output: 6

# print(text.index("java")) # ❌ ValueError

* **rindex(substring)** – Returns the last occurrence index; raises error if not found.

text = "python is easy, python is powerful"

print(text.rindex("python")) # Output: 18

* **count(substring)** – Counts how many times a substring occurs.

text = "banana"

print(text.count("a")) # Output: 3