**Code**

str1 = "Listen"

str2 = "Silent"

str1 = str1.replace(" ", "").upper()

str2 = str2.replace(" ", "").upper()

print(f"First string: {str1}")

print(f"Second string: {str2}")

if sorted(str1) == sorted(str2):

print("True")

else:

print("False")

**1. Initialize Two Strings**

str1 = "Listen"

str2 = "Silent"

* Two strings are initialized with the values "Listen" and "Silent".
* These strings will be compared to check if they are **anagrams**.

**2. Preprocessing: Remove Spaces and Convert to Uppercase**

str1 = str1.replace(" ", "").upper()

str2 = str2.replace(" ", "").upper()

**Explanation:**

1. **Remove Spaces**:
   * The replace(" ", "") method removes all spaces from the strings.
   * If the strings contain spaces, they won’t affect the comparison.
2. **Convert to Uppercase**:
   * The .upper() method converts all characters in the strings to uppercase.
   * This ensures that the comparison is **case-insensitive** (e.g., "A" is treated the same as "a").

**Result After Preprocessing:**

* str1 = "LISTEN"
* str2 = "SILENT"

**3. Print Preprocessed Strings**

print(f"First string: {str1}")

print(f"Second string: {str2}")

* This prints the preprocessed strings for debugging or understanding the current state of the variables:

First string: LISTEN

Second string: SILENT

**4. Compare the Strings Using sorted()**

if sorted(str1) == sorted(str2):

print("True")

else:

print("False")

**How sorted() Works:**

* The sorted() function rearranges the characters of a string in **alphabetical order** and returns a list of sorted characters.

**Steps:**

1. **Sort str1**:
   * Input: "LISTEN"
   * Sorted: ['E', 'I', 'L', 'N', 'S', 'T']
2. **Sort str2**:
   * Input: "SILENT"
   * Sorted: ['E', 'I', 'L', 'N', 'S', 'T']
3. **Compare the Sorted Lists**:
   * Check if sorted(str1) is equal to sorted(str2):
     + ['E', 'I', 'L', 'N', 'S', 'T'] == ['E', 'I', 'L', 'N', 'S', 'T']
   * Since the sorted lists are equal, the strings are **anagrams**.

**Output:**

True

**5. Output the Result**

* If the sorted lists are equal, print "True".
* Otherwise, print "False".

**Key Concepts in the Code**

1. **Anagrams**:
   * Two strings are anagrams if they contain the same characters in the same frequency, but in any order.
   * Example: "Listen" and "Silent" have the same letters rearranged.
2. **String Preprocessing**:
   * **Removing spaces** ensures that extra spaces don't affect the comparison.
   * **Converting to uppercase** makes the comparison case-insensitive.
3. **Sorting Strings**:
   * The sorted() function is used to rearrange the characters alphabetically.
   * If the sorted versions of two strings are identical, they are anagrams.
4. **Comparison**:
   * The == operator checks if the sorted lists of characters are the same.

**Example Walkthrough**

**Input:**

str1 = "Listen"

str2 = "Silent"

**Step-by-Step Execution:**

1. Preprocess str1: "Listen" → "LISTEN".
2. Preprocess str2: "Silent" → "SILENT".
3. Sort str1: ['E', 'I', 'L', 'N', 'S', 'T'].
4. Sort str2: ['E', 'I', 'L', 'N', 'S', 'T'].
5. Compare sorted results:
   * Since the sorted lists are equal, the strings are anagrams.
6. Output: True.

**Final Output**

First string: LISTEN

Second string: SILENT

True