

■ String Methods in Java - Quick Revision

■ 1. indexOf() and lastIndexOf()

The `indexOf()` method returns the index of the **first occurrence** of a character or substring. The `lastIndexOf()` method returns the index of the **last occurrence**.

Example:

```
public class IndexOfExample { public static void main(String[] args) {  
String str = "rajendra Chaudhary"; int idx = str.indexOf('a'); // first  
'a' int idx2 = str.lastIndexOf('a'); // last 'a' System.out.println(idx);  
// 1 System.out.println(idx2); // 15 } }
```

■ Output Explanation:

- `str.indexOf('a')` → returns **1**, because the first 'a' is at index 1 (0-based).
- `str.lastIndexOf('a')` → returns **15**, because the last 'a' occurs at index 15.

■ 2. compareTo()

The `compareTo()` method compares two strings **lexicographically** (dictionary order).

Rules:

- Returns `0` if both strings are equal.
- Returns `+ve` if the first string is lexicographically greater.
- Returns `-ve` if the first string is lexicographically smaller.

Examples:

```
String str = "Hello"; String gtr = "Dello";  
System.out.println(str.compareTo(gtr)); // Output: +4 → because 'H' (72)  
- 'D' (68) = 4 String str2 = "Hello"; String gtr2 = "Zello";  
System.out.println(str2.compareTo(gtr2)); // Output: -18 → because 'H'  
(72) - 'Z' (90) = -18 String str3 = "Hello"; String gtr3 = "Hello";  
System.out.println(str3.compareTo(gtr3)); // Output: 0 → both are equal
```

■ Quick Summary

| Method | Description | Example | Output |
|----------------------------|------------------------------------|---|--------|
| <code>indexOf()</code> | Returns index of first occurrence | <code>str.indexOf('a')</code> | 1 |
| <code>lastIndexOf()</code> | Returns index of last occurrence | <code>str.lastIndexOf('a')</code> | 15 |
| <code>compareTo()</code> | Compares strings lexicographically | <code>"Hello".compareTo("Dello")</code> | +4 |
| <code>compareTo()</code> | Equal strings return 0 | <code>"Hello".compareTo("Hello")</code> | 0 |