

## **Basic String Methods**

```
// Create a String
String str1 = "Hello";
String str2 = new String("Hello");

// Length of String
int len = str1.length(); // Returns length of the string

// Check if String is Empty or Blank (Java 11+)
boolean isEmpty = str1.isEmpty(); // true if empty
boolean isBlank = " ".isBlank(); // true if only spaces

// Access Characters
char ch = str1.charAt(1); // Get character at index
```

## **Searching & Matching**

```
// Find Index of a Character
int firstIndex = str1.indexOf('l'); // First occurrence
int lastIndex = str1.lastIndexOf('l'); // Last occurrence

// Check if String Contains a Substring
boolean contains = str1.contains("lo"); // true

// Check Start & End
boolean starts = str1.startsWith("He"); // true
boolean ends = str1.endsWith("lo"); // true
```

## **Comparing Strings**

```
// Equals & Ignore Case
boolean equals = str1.equals(str2); // false (different objects)
boolean equalsIgnoreCase = str1.equalsIgnoreCase(str2); // true

// Lexicographic Comparison
int cmp = str1.compareTo("World"); // Returns negative, 0, or positive
int cmpIgnoreCase = str1.compareToIgnoreCase("world");

// Match with Regular Expression
boolean matches = str1.matches("Hello"); // true if exact match
```

## **Modifying Strings**

```
// Replace Characters
String replaced = str1.replace('l', 'x'); // "Hexxo"

// Replace Substring with Regex
```

```
String replacedAll = str1.replaceAll("l+", "X"); // "HeXo"  
String replacedFirst = str1.replaceFirst("l", "X"); // "HeXlo"
```

```
// Trim Whitespaces  
String trimmed = " Hello ".trim(); // "Hello"  
String stripped = " Hello ".strip(); // "Hello" (Java 11+)  
String stripLeading = " Hello".stripLeading(); // "Hello"  
String stripTrailing = "Hello ".stripTrailing(); // "Hello"
```

### **Case Conversion**

```
// Convert to Uppercase & Lowercase  
String upper = str1.toUpperCase(); // "HELLO"  
String lower = str1.toLowerCase(); // "hello"
```

### **Extracting Substrings**

```
// Extract Part of a String  
String sub1 = str1.substring(0, 3); // "Hel"  
String sub2 = str1.substring(2); // "llo"
```

### **Splitting & Joining**

```
// Split a String  
String[] parts = "Hello World".split(" "); // ["Hello", "World"]
```

```
// Join Strings  
String joined = String.join("-", "Java", "Python", "C++"); // "Java-Python-C++"
```

### **String Formatting**

```
// Format a String  
String formatted = String.format("Name: %s, Age: %d", "John", 25);  
// Output: "Name: John, Age: 25"
```

### **StringBuilder (Mutable Strings)**

```
StringBuilder sb = new StringBuilder("Hello");  
sb.append(" World"); // "Hello World"  
sb.insert(5, " Java"); // "Hello Java World"  
sb.replace(6, 10, "C++"); // "Hello C++ World"  
sb.delete(6, 9); // "Hello World"  
sb.reverse(); // "dlroW olleH"
```