**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 equalsIgnore = str1.equalsIgnoreCase(str2); // true

// Lexicographic Comparison

int cmp = str1.compareTo("World"); // Returns negative, 0, or positive

int cmpIgnore = 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"