

Java String Programs

1. Count Vowels and Consonants

```
String str = "Java Programming";
int vowels = 0, consonants = 0;
str = str.toLowerCase();
for (char ch : str.toCharArray()) {
    if (Character.isLetter(ch)) {
        if ("aeiou".contains(String.valueOf(ch))) vowels++;
        else consonants++;
    }
}
System.out.println("Vowels: " + vowels);
System.out.println("Consonants: " + consonants);
```

2. Check Palindrome

```
String str = "Madam";
String reversed = new StringBuilder(str).reverse().toString();
if (str.equalsIgnoreCase(reversed)) {
    System.out.println("Palindrome");
} else {
    System.out.println("Not a Palindrome");
}
```

3. Count Total Words in a String

```
String sentence = "Java is simple and powerful";
String[] words = sentence.trim().split("\\s+");
System.out.println("Total Words: " + words.length);
```

4. Remove All Spaces

```
String str = " Java Programming Language ";
String noSpaces = str.replace(" ", "");
System.out.println("Without spaces: " + noSpaces);
```

5. Reverse Each Word in a Sentence

```
String input = "Hello Java World";
String[] words = input.split(" ");
for (String word : words) {
    System.out.print(new StringBuilder(word).reverse().toString() + " ");
}
```

6. Count Character Frequency

```
String str = "Java";
char target = 'a';
int count = 0;
for (char c : str.toCharArray()) {
    if (c == target) count++;
}
System.out.println("Frequency of '" + target + "' = " + count);
```

7. Convert String to Upper and Lower Case

```
String str = "Java Language";
System.out.println("Uppercase: " + str.toUpperCase());
System.out.println("Lowercase: " + str.toLowerCase());
```

8. Replace Vowels with '*'

```
String str = "Java Programming";
str = str.replaceAll("[AEIOUaeiou]", "*");
System.out.println("Modified: " + str);
```

9. Check if Two Strings are Anagrams

```
String str1 = "listen";
String str2 = "silent";
char[] a = str1.toLowerCase().toCharArray();
char[] b = str2.toLowerCase().toCharArray();
Arrays.sort(a);
Arrays.sort(b);
if (Arrays.equals(a, b)) {
    System.out.println("Anagrams");
} else {
    System.out.println("Not Anagrams");
}
```

10. Find the Longest Word in a Sentence

```
String sentence = "Java is a powerful programming language";
String[] words = sentence.split(" ");
String longest = "";
for (String word : words) {
    if (word.length() > longest.length()) {
        longest = word;
    }
}
System.out.println("Longest Word: " + longest);
```