

String.compareTo()

```
public final class String implements java.io.Serializable,
Comparable<String>, CharSequence {
    // ...
    public int compareTo(String anotherString) {
        int len1 = value.length;
        int len2 = anotherString.value.length;
        int lim = Math.min(len1, len2);
        char v1[] = value;
        char v2[] = anotherString.value;

        int k = 0;
        while (k < lim) {
            char c1 = v1[k];
            char c2 = v2[k];
            if (c1 != c2) {
                return c1 - c2; // Returns the difference of Unicode values
            }
            k++;
        }
        return len1 - len2; // If one is a prefix of the other, compare
lengths
    }
    // ...
}
```

String.compareToIgnoreCase()

```
public int compareToIgnoreCase(String anotherString) {
    // Get the minimum length to iterate
    int len1 = this.length();
    int len2 = anotherString.length();
    int lim = Math.min(len1, len2);

    // Iterate and compare characters after converting to lowercase
    for (int k = 0; k < lim; k++) {
        char c1 = this.charAt(k);
        char c2 = anotherString.charAt(k);
        if (c1 != c2) {
            c1 = Character.toLowerCase(c1);
            c2 = Character.toLowerCase(c2);
            if (c1 != c2) {
                return c1 - c2; // Return the difference if unequal
            }
        }
    }
    // If all common characters are equal, return the length difference
    return len1 - len2;
}
```