Java String compare

We can compare string in java on the basis of content and reference. It is used in authentication (by equals() method), sorting (by compareTo() method), reference matching (by == operator) etc.

There are three ways to compare string in java:

- By equals() method
- By = = operator
- By compareTo() method

String compare by equals() method -

The String equals() method compares the original content of the string. It compares values of string for equality. String class provides two methods:

- **public boolean equals(Object another)** compares this string to the specified object.
- **public boolean equalsIgnoreCase(String another)** compares this String to another string, ignoring case.

Example - 1

```
class Teststringcomparison1
{
    public static void main(String args[])
    {
        String s1="Sachin";
        String s2="Sachin";
        String s3=new String("Sachin");
        String s4="Saurav";
        System.out.println(s1.equals(s2));//true
        System.out.println(s1.equals(s3));//true
        System.out.println(s1.equals(s4));//false
    }
}
```

Example - 2

```
class Teststringcomparison2
{
    public static void main(String args[])
    {
        String s1="Sachin";
        String s2="SACHIN";
        System.out.println(s1.equals(s2));//false
        System.out.println(s1.equalsIgnoreCase(s2));//true
    }
}
```

The = = operator compares references not values.

Example -

```
class Teststringcomparison3
{
    public static void main(String args[])
    {
        String s1="Sachin";
        String s2="Sachin";
        String s3=new String("Sachin");
        System.out.println(s1==s2);
            //true (because both refer to same instance)
        System.out.println(s1==s3);
            //false (because s3 refers to instance created in nonpool)
    }
}
```

String compare by compareTo() method -

The String compareTo() method compares values lexicographically and returns an integer value that describes if first string is less than, equal to or greater than second string.

Suppose s1 and s2 are two string variables. If -

s1 == s2 then 0

s1 > s2   then positive value

s1 < s2   then negative value

Example -

```
class Teststringcomparison4
{
    public static void main(String args[])
    {
        String s1="Sachin";
        String s2="Sachin";
        String s3="Ratan";

        System.out.println(s1.compareTo(s2));//0
        System.out.println(s1.compareTo(s3));//1(because s1>s3)
        System.out.println(s3.compareTo(s1));//-1(because s3 < s1 )
    }
}
```