



Vidyavardhini's College of Engineering & Technology

Department of Computer Engineering

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ROLL NO: 54
DIV:2 BATCH:C

Experiment No. 8
String Function
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Aim:- To write a program to test String class and its functions.

Objective:- To use String functions for solving given problem



Theory:- String is a sequence of characters. But in Java, string is an object that represents a sequence of characters. The java.lang.String class is used to create a string object.

For example:

1.char[] ch={'j','a','v','a','t','p','o','i','n','t'};

2.String s=new String(ch);

is same as: 1.String s="javatpoint";

Java String class provides a lot of methods to perform operations on strings such as compare(), concat(), equals(), split(), length(), replace(), compareTo(), substring() etc.

Code: -

1) String Class

```
public class StringDemo{  
  
    public static void main(String[] args) {  
  
        String s1="This is SE div 2";  
  
        char res=s1.charAt(5);  
  
        System.out.println(res);  
  
        String s2=s1.toLowerCase();  
  
        System.out.println("String Value in lower case: "+s2);  
  
        String s3=s1.toUpperCase();  
  
        System.out.println("String Value in lower case: "+s3);  
  
        String s4=s1.replace('i','y');  
  
        System.out.println("String Value after Replacement: "+s4);  
  
        String s5=s1.trim();  
  
        System.out.println("String Value after Trimmed : "+s2);  
  
        String s6="this is SE div 2";  
  
        System.out.println("Is s1 equal to s6: "+s1.equals(s6));  
    }  
}
```



```
System.out.println("Is s1 equal to s6: "+s1.equalsIgnoreCase(s6));

System.out.println("Length os String : "+s1.length());

System.out.println("Char at 10th position: "+s1.charAt(10));

System.out.println("After comparing the ascii values of s1 and s2 is: "+s1.compareTo(s6));

System.out.println("After comparing the ascii value of s1 and s2 : "+s1.compareToIgnoreCase(s6));

String s7="OOPM is java";

String s8=s1.concat(s7);

System.out.println("String after concatenation: "+s1.charAt(10));

System.out.println("Substring of s1: "+s1.substring(5));

System.out.println("Substring of s2: "+s1.substring(5,10));

System.out.println("Index of s1 at character 'i' is : "+s1.indexOf('i'));

}

}
```



```
Command Prompt

C:\Users\student\Desktop>java StringDemo
i
String Value in lower case: this is se div 2
String Value in lower case: THIS IS SE DIV 2
String Value after Replacement: Thys ys SE dyv 2
String Value after Trimmed : this is se div 2
Is s1 equal to s6: false
Is s1 equal to s6: true
Length os String : 16
Char at 10th position:
After comparing the ascii values of s1 and s2 is: -32
After comparing the ascii value of s1 and s2 : 0
String after concatenation:
Substring of s1: is SE div 2
Substring of s2: is SE
Index of s1 at character 'i' is : 2

C:\Users\student\Desktop>_
```

2) StringBuffer Class

```
public class StringBufferDemo{

    public static void main(String[] args) {

        String s1="This is SE div 2";

        char res=s1.charAt(5);

        System.out.println(res);

        String s2=s1.toLowerCase();

        System.out.println("String Value in lower case: "+s2);

        String s3=s1.toUpperCase();

        System.out.println("String Value in lower case: "+s3);

        String s4=s1.replace('i','y');

        System.out.println("String Value after Replacement: "+s4);

        String s5=s1.trim();

        System.out.println("String Value after Trimmed : "+s2);

    }

}
```



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```
String s6="this is SE div 2";

System.out.println("Is s1 equal to s6: "+s1.equals(s6));

System.out.println("Is s1 equal to s6: "+s1.equalsIgnoreCase(s6));

System.out.println("Length os String : "+s1.length());

System.out.println("Char at 10th position: "+s1.charAt(10));

System.out.println("After comparing the ascii values of s1 and s2 is: "+s1.compareTo(s6));

System.out.println("After comparing the ascii value of s1 and s2 : "+s1.compareToIgnoreCase(s6));

String s7="OOPM is java";

String s8=s1.concat(s7);

System.out.println("String after concatenation: "+s1.charAt(10));

System.out.println("Substring of s1: "+s1.substring(5));

System.out.println("Substring of s2: "+s1.substring(5,10));

System.out.println("Index of s1 at character 'i' is : "+s1.indexOf('i'));

}

}
```



```
Command Prompt

C:\Users\student\Desktop>java StringBufferDemo
i
String Value in lower case: this is se div 2
String Value in lower case: THIS IS SE DIV 2
String Value after Replacement: Thys ys SE dyv 2
String Value after Trimmed : this is se div 2
Is s1 equal to s6: false
Is s1 equal to s6: true
Length os String : 16
Char at 10th position:
After comparing the ascii values of s1 and s2 is: -32
After comparing the ascii value of s1 and s2 : 0
String after concatenation:
Substring of s1: is SE div 2
Substring of s2: is SE
Index of s1 at character 'i' is : 2

C:\Users\student\Desktop>
```

3) Vector Class

```
import java.util.Vector;
```

```
public class VectorDemo{

    public static void main(String[] args) {

        Vector<String> mammals=new Vector<>();

        mammals.add("dog");
        mammals.add("cat");

        mammals.add(2, "horse");

        System.out.println( "Vector :"+mammals);

    }

}
```

```
Vector<String> animals=new Vector<>();
```



```
animals.addAll(mammals);
```

```
animals.add("Donkey");
```

```
System.out.println(animals);
```

```
String element=animals.get(2);
```

```
System.out.println("Element at index 2: "+element);
```

```
animals.removeElementAt(1);
```

```
System.out.println("New Vector: "+animals);
```

```
animals.insertElementAt("Snake",2);
```

```
System.out.println("New Vector: "+animals);
```

```
}
```

```
}
```

```
C:\Users\GAURAV\OneDrive\Desktop>java Array  
Vector :[dog, cat, horse]  
New Vector: [dog, cat, horse, Donkey]  
Element at index 2: horse  
New Vector: [dog, horse, Donkey]  
New Vector: [dog, horse, Snake, Donkey]
```




Conclusion:-

In Java, 'String', 'StringBuffer', and 'Vector' are all important classes used for handling and manipulating data.

1. String: The 'String' class represents character strings. Strings in Java are immutable, which means once a 'String' object is created, it cannot be changed. This immutability feature makes 'String' safe to use in multithreaded environments but can lead to inefficiency when concatenating multiple strings.

2. StringBuffer: The 'StringBuffer' class is used for creating mutable strings. It provides several methods for string manipulation like 'append()', 'insert()', 'reverse()', etc. It is thread-safe, meaning it is suitable for use in multithreaded environments.

3. Vector: The 'Vector' class implements a growable array of objects. It is similar to the 'ArrayList', but with two differences: it is synchronized, and it contains many legacy methods that are not part of the collections framework.

In conclusion, while 'String' and 'StringBuffer' are used for handling and manipulating string data, with the choice between them depending on the need for mutability and thread safety, 'Vector' provides a flexible and thread-safe structure for storing object data.