

Basic String method List

Name	Description	Example
str.length()	Returns the length of the string i.e. count of characters in string.	<pre>String str1 = "abcd"; String str2 = ""; int len1 = str1.length(); int len2 = str2.length(); System.out.println(len1); System.out.println(len2);</pre> <p>Output: 4 0</p>
str.charAt(index)	Returns the character at the index. <i>Indexes range from 0 to str.length() - 1</i>	<pre>String str = "abcd"; char ch = str.charAt(0); System.out.println(ch); ch = str.charAt(1); System.out.println(ch); ch = str.charAt(3); System.out.println(ch);</pre> <p>Output: a b d</p>

Traversing a String character by character

For traversing a string, loop through the whole length of string using a for loop and extract each character using charAt(index) method. For finding length of string use length() method.

Example 1: String Traversal

```
1 String str = "hello";
2 String printStr = "";
3 int len = str.length();
4
5 for(int i = 0; i < len; i++)
6 {
7     char ch = str.charAt(i);           //get character at a particular index
8     printStr = "index" + i + ":" + ch;
9     System.out.println(printStr);
10 }
```

Output:

```
index0:h
index1:e
index2:l
```

index3:l
index4:o

Dry Run:

Before loop	len = 5		
loop variable	ch	printStr	Print
i = 0	'h'	⇒ printStr = "index" + 0 + ":" + 'h' ⇒ printStr = "index0:h"	index0:h
i = 1	'e'	⇒ printStr = "index" + 1 + ":" + 'e' ⇒ printStr = "index1:e"	index1:e
i = 2	'l'	⇒ printStr = "index" + 2 + ":" + 'l' ⇒ printStr = "index2:l"	index2:l
i = 3	'l'	⇒ printStr = "index" + 3 + ":" + 'l' ⇒ printStr = "index3:l"	index3:l
i = 4	'o'	⇒ printStr = "index" + 4 + ":" + 'o' ⇒ printStr = "index4:o"	index4:o
i = 5	-	-	-

Problem 1	Give output of following code.
<pre> 1 String str = "world"; 2 String zstr = ""; 3 int len = str.length(); 4 5 for(int i = 0; i < len; i++) 6 { 7 char newchar = str.charAt(i); 8 zstr = "#" + i + "#" + newchar; 9 System.out.println(zstr); 10 }</pre>	

Quick Sheet: Working with Characters

Conditions	Code with Examples
For Checking value of a variable "ch" is equal to character 'd'	<p>ch == 'd' [check if value of ch is 'd']</p> <p>Examples: If ch = 'a' then ch == 'd' => false If ch = 'b' then ch == 'b' => true If ch = 'm' then ch == 'M' => false [case-sensitive]</p>

Example 2: Counting the number of character 'L' in given string.

```

1 String str = "hello";
2 int len = str.length();
3
```

```

4  int count = 0;
5
6  for(int i = 0; i < len; i++)
7  {
8      char ch = str.charAt(i);           //getting character at a particular index
9      if(ch == 'L')                     //checking if current character is 'L'
10     {
11         count = count + 1;
12     }
13 }
14 System.out.println(count);

```

Output:

1

Dry Run:

Before loop	len = 5			
loop variable	ch	if	count	Print
i = 0	'h'	⇒ 'h' == 'L' ⇒ false	0	-
i = 1	'e'	⇒ 'e' == 'L' ⇒ false	0	-
i = 2	'L'	⇒ 'L' == 'L' ⇒ true	1	-
i = 3	'l'	⇒ 'l' == 'L' ⇒ false [case-sensitive]	1	-
i = 4	'o'	⇒ 'o' == 'L' ⇒ false	1	-
i = 5	-	-	-	-
Outside Loop	-	-	-	1

Problem 2 Give output of following code.

```

1  String randomStr = "XxYXZxX";
2  int len = randomStr.length();
3  char targetCh = 'X';
4  int total = 0;
5  for(int i = 0; i < len; i++)
6  {
7      char ch = randomStr.charAt(i);
8      if(ch == targetCh)
9      {
10         total = total + 1;
11     }
12 }
13 System.out.println(targetCh + ":" + total);

```