Some String Methods in JAVA

1. charAt()

Returns the character at a specified index in a string.

Example:

```
String str = "Hello";
char ch = str.charAt(1); // 'e'
System.out.println(ch);   // Output: e
```

2. length()

Returns the length of the string.

Example:

```
String str = "Hello";
int len = str.length(); // 5
System.out.println(len);   // Output: 5
```

3. concat()

Concatenates the specified string to the end of another string.

Example:

```
String str1 = "Hello";
String str2 = "World";
String result = str1.concat(str2); // "HelloWorld"
System.out.println(result);   // Output: HelloWorld
```

4. indexOf()

Returns the index within the string of the first occurrence of the specified character or substring.

Example:

```
String str = "Hello";
int index = str.indexOf('e'); // 1
System.out.println(index);   // Output: 1
```

5. lastIndexOf()

Returns the index within the string of the last occurrence of the specified character or substring.

Example:

```
String str = "HelloHello";
int lastIndex = str.lastIndexOf('e'); // 6
System.out.println(lastIndex);   // Output: 6
```

6. startsWith()

Checks if the string starts with the specified prefix.

Example:

```
String str = "Hello";
boolean starts = str.startsWith("He"); // true
System.out.println(starts);   // Output: true
```

7. endsWith()

Checks if the string ends with the specified suffix.

Example:

```
String str = "Hello";
boolean ends = str.endsWith("lo"); // true
System.out.println(ends);   // Output: true
```

8. trim()

Removes leading and trailing whitespace from the string.

Example:

```
String str = "  Hello  ";
String trimmedStr = str.trim(); // "Hello"
System.out.println(trimmedStr);   // Output: "Hello"
```

9. substring()

Returns a new string that is a substring of the original string.

Example:

```
String str = "HelloWorld";
String subStr = str.substring(0, 5); // "Hello"
System.out.println(subStr);   // Output: Hello
```

10. toLowerCase()

Converts all characters in the string to lowercase.

Example:

```
String str = "Hello";
String lowerStr = str.toLowerCase(); // "hello"
System.out.println(lowerStr);  // Output: hello
```

11. toUpperCase()

Converts all characters in the string to uppercase.

Example:

```
String str = "Hello";
String upperStr = str.toUpperCase(); // "HELLO"
System.out.println(upperStr);  // Output: HELLO
```

12. valueOf()

Converts different types of values (like int, double, etc.) to a string.

Example:

```
int num = 123;
String str = String.valueOf(num); // "123"
System.out.println(str);  // Output: 123
```

Reading Input String from Keyboard

Reading a string input from the user using `Scanner`.

Example:

```
import java.util.Scanner;

Scanner scanner = new Scanner(System.in);
System.out.println("Enter a string:");
String input = scanner.nextLine();
System.out.println("You entered: " + input);
```

Converting Strings to Numbers

Convert string to integer or double using `parseInt()` or `parseDouble()`.

Example for parseInt():

```
String str = "123";
int num = Integer.parseInt(str); // 123
System.out.println(num);  // Output: 123
```

Example for parseDouble():

```
String str = "123.45";
double num = Double.parseDouble(str); // 123.45
System.out.println(num);  // Output: 123.45
```

Useful Methods and Values in Class Integer and Class Double

Explanation: Common methods like `parseInt()`, `parseDouble()`, `MAX_VALUE`, `MIN_VALUE`. **Example:**

```
String str = "123";
int num = Integer.parseInt(str); // 123
System.out.println(Integer.MAX_VALUE); // Output: 2147483647
System.out.println(Integer.MIN_VALUE); // Output: -2147483648
```

Reading Formatted Input using Scanner

Explanation: Reading different types of input (int, double, boolean) using `Scanner`. **Example for next():**

```
Scanner scanner = new Scanner(System.in);
System.out.println("Enter a word:");
String word = scanner.next();
System.out.println("You entered: " + word);
```

Example for nextInt()

```
Scanner scanner = new Scanner(System.in);
System.out.println("Enter an integer:");
int number = scanner.nextInt();
System.out.println("You entered: " + number);
```

Example for nextDouble()

```
Scanner scanner = new Scanner(System.in);
System.out.println("Enter a double:");
double number = scanner.nextDouble();
System.out.println("You entered: " + number);
```