



String class

Java String class

- In java String are handled using String class for java.lang package. It has advantages over tradition character array
- Strings are **constant/ immutable**; their values cannot be changed after they are created.
- **StringBuffer and StringBuilder** classes are used to change strings.

String str = "ACTS"; //This is called as String Literals.

is equivalent to:

```
char data[] = {'A', 'C', 'T', 'S'};
```

String str = new String(data); // String created using new

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Storage of Strings

- String Literals are stored in the **String Literal/Constant Pool**
- String created using new are stored on heap

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Three popular ways of creating strings in Java:

- String literal
- Using new keyword
- Using String.intern() method

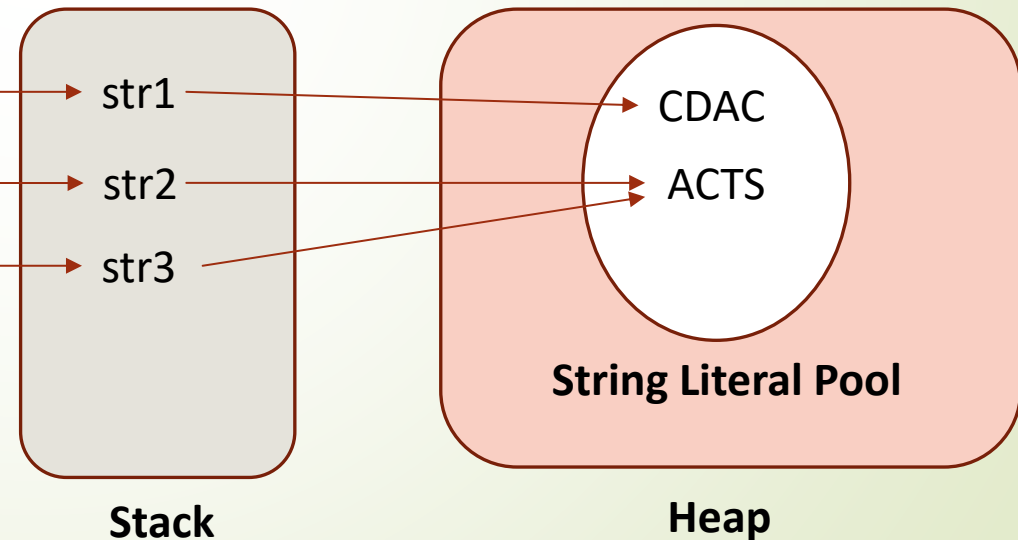
1. String literal

This is the simplest and mostly used way of creating string. It is done using putting characters in double quotes.

```
String str1 = "CDAC";
```

```
String str2 = "ACTS";
```

```
String str3 = "ACTS";
```



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2. Using new keyword

- We can create new String objects using the new keyword.
- When we create new string literals using the new keyword, memory is allocated to those String objects in the Java heap memory outside the String Pool.

```
String str1 = "CDAC";
```

```
String str2 = "ACTS";
```

```
String str3 = "ACTS";
```

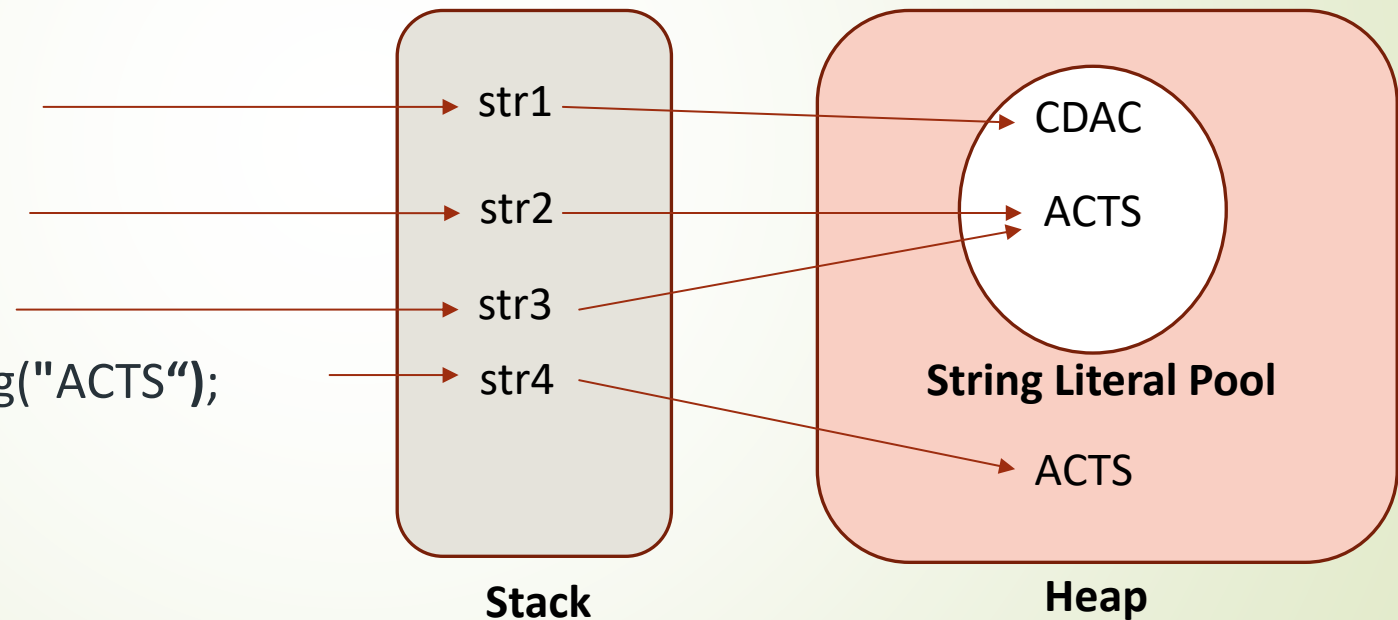
```
String str4 = new String("ACTS");
```

```
str2 == str3; => true
```

```
str2 == str4; => false
```

```
str2.equals(str4); => true
```

`==` check reference and **equals** check contents



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3. Using String.intern() method

- Creating strings using the new keyword allocates memory to the string object in the **heap but outside the string constant pool**.
- When we use the **String.intern()** method, JVM puts the string literal in the String Pool.

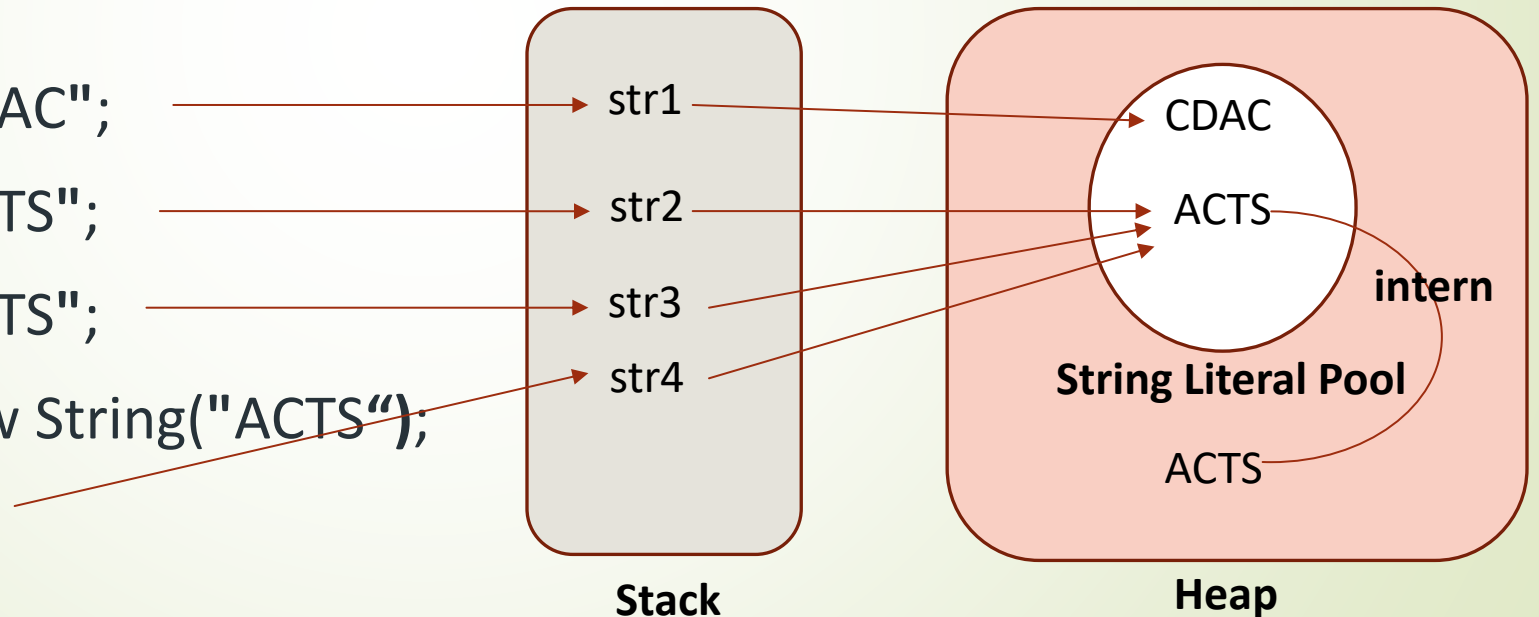
String str1 = "CDAC";

String str2 = "ACTS";

String str3 = "ACTS";

String str4 = new String("ACTS");

str4.intern();



Java String class summary

- A string is a set of characters that are always enclosed in double-quotes.
- Strings in Java are immutable in nature. This immutability is achieved through String Pool.
- String Pool in Java is a special storage space in Java heap memory. It is also known as String Constant Pool or String Intern Pool.
- Whenever a new string is created, JVM first checks the string pool. If it encounters the same string, then instead of creating a new string, it returns the same instance of the found string to the variable.

Java String class summary

- The String.intern() method puts the string in the String pool or refers to another String object from the string pool having the same value.
- String Interning is a method that stores only a copy of each distinct string literal. String Pool is an implementation of the concept of String Interning.
- Java String Pool allows caching of string and reusability.

Java String class few important methods

- `charAt()`
- `valueOf()`
- `length()`
- `toLowerCase()`, `toUpperCase()`
- `trim()`
- `valueOf()`
- `concat()`
- `contains()`
- `equals()`, `equalsIngoreCase()`