

* String in Java *

* Assignment Solution 01 *

* Q.1 * What is a String in Java?

* Ans.1 * String refers to an object in Java present in package called java.lang.String. String refers to collection of characters.

* Q.2 * Types of String in Java?

* Ans.2 * * Types of String *

There are two types String in Java

1. Mutable String
2. Immutable String.

* Q.2 * In how many ways can you create a String object in java?

* Ans.2 * there are several ways to create a String object.

1. using String Literal \Rightarrow

String str1 = "Hello";



2. using the 'new' keyword \Rightarrow

```
String str2 = new String("Ajay");
```

3. using 'charAt' Method:

```
char[] charArray = {'A', 'B', 'C'};
```

```
String str3 = new String(charArray);
```

4. using 'getBytes' Method \Rightarrow

```
byte[] byteArray = {10, 20, 30, 40};
```

```
String str4 = new String(byteArray);
```

5. using 'StringBuilder' or 'StringBuffer' class \Rightarrow

```
StringBuilder stringBuilder = new StringBuilder();
```

```
String str5 = stringBuilder.toString();
```

you can use 'StringBuilder' or 'StringBuffer' to build a String and then convert it to a String object using 'toString' method.

* Q.4 * What is a String Constant pool?

* Ans 4 *

- * Object creation in SCP is always optional. 1st JVM will check if any object already created with required content or not.
- * If it is already available then it will reuse the existing object instead of creating the new object.
- * If it is not available only then a new object will be created, so we say in SCP there is no chance of existing 2 object with same content.
- * In SCP duplicate are not permitted.
- * Garbage Collector can not access SCP Area, Even though object does not have any reference still object is not eligible for GC.
- * All SCP objects will be destroyed only at the time of JVM shutdown.

* Example *

```
String s1 = new String("Ajay");  
String s2 = new String("Ajay");
```



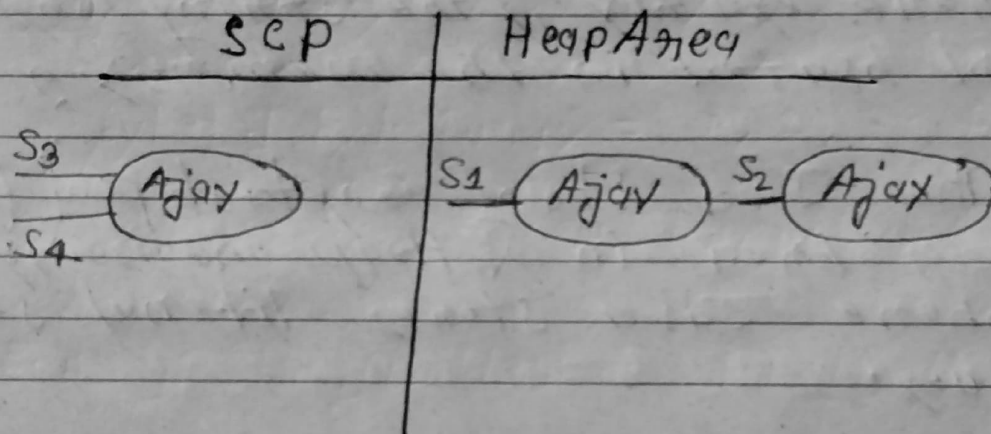

String S₃ = "Ajay";

String S₄ = "Ajay";

* output *

Two object are created in the heap with data as "Ajay" with reference as S₁, S₂.

one object is created in scp with the reference as S₃, S₄.



Q.5 What do you mean by mutable and immutable objects?

Ans: 5 * Mutable object *

Once if we create a string, on that string if we try to perform any operation and if those changes get reflected in the same object then such strings are called "Mutable String".

Example: StringBuffer, StringBuilder



* Immutable String *

Once if we create a String, on the string if we try to perform any operation then those changes won't be reflected in the same object, rather a new object will be created. Such type of string is called as "Immutable String".

Q.6 Where exactly is the string constant pool located in the memory?

Ans The Java String Constant pool (SCP) is a Area in Heap memory where Java stores literal string values.