

# String class

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# What is String class?

*Final class.*

- String is the class that represents sequence of character.
- It is present in Package is Java. Lang.
- String class implements Serializable, Comparable, CharSequence interface.
- String is the immutable, once string object is created, it cannot be changed but new string object is created.

*characters*  
'a', 'b', 'c' → "abc"  
*String*

*marker interface*

①

②

③

Code to see the immutability of string

# How to create the string object?

Example objName  
= new Example();

- ✓• 1. String literal → Direct
- ✓• 2. By new keyword → Actual

# String literal-

`String s = "velocity";`

Diagram illustrating the components of the String literal code:

- `String`: class
- `s`: objName or Reference Variable
- `=`: assignment operator
- `"velocity"`: String literal in obj

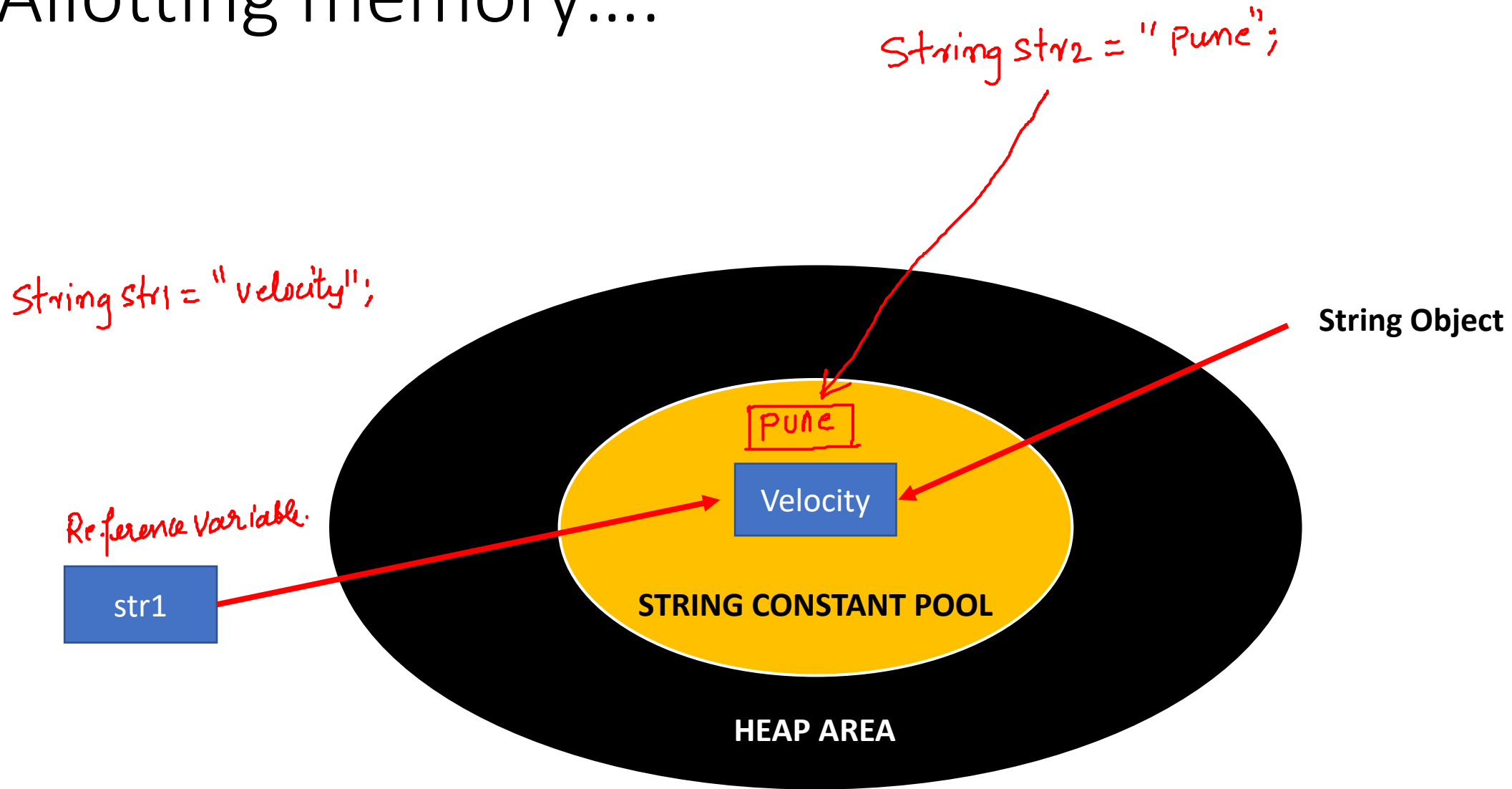
- It is created by using double quotes.
- Example- String s = "velocity";
- Each time when you create string literal, the JVM check **string constant pool** first, if the string object is already present in the pool, reference to pooled instance is returned. If string does not present in the pool, new string instance is created and placed in pool.

shared ←

Q>What is String constant pool?

A> A string constant pool is a separate place in the heap memory where the values of all the strings which are defined in the program are stored.

# Allotting memory....

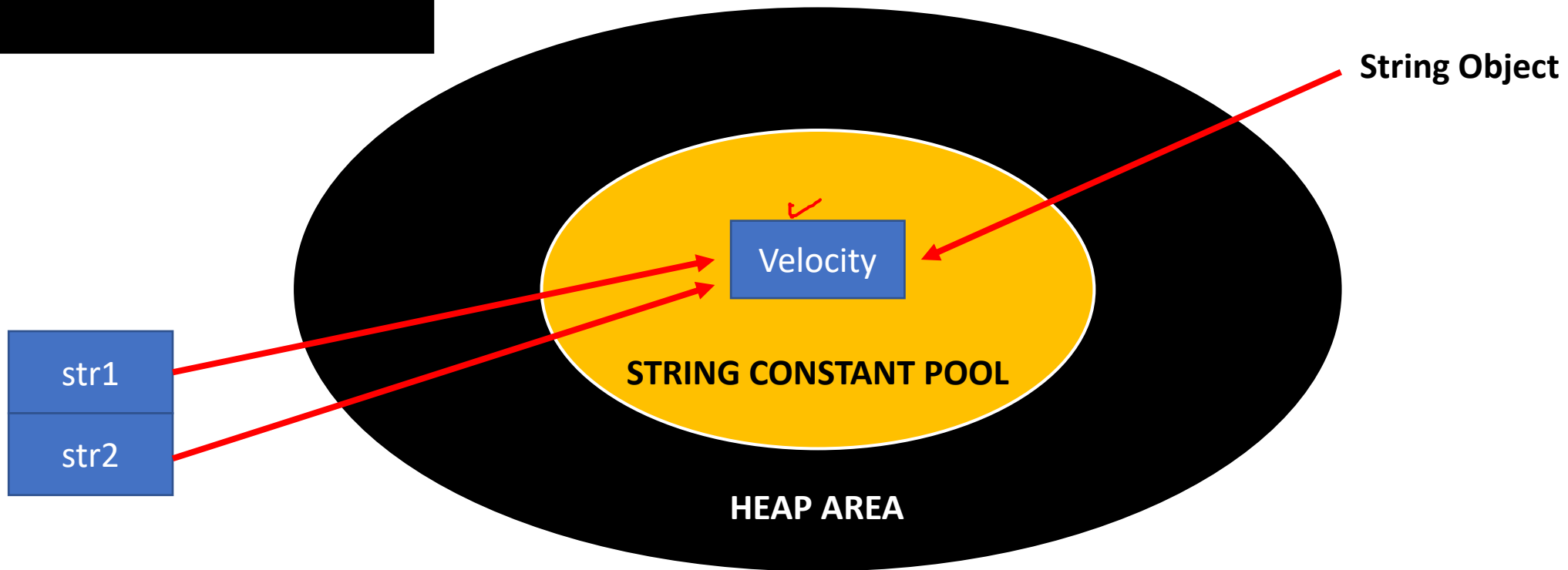


The Reference variable str1 is pointing towards the object

# Allotting memory....

*Car pooling → share*

```
String str1 = "Velocity"; ①  
String str2 = "Velocity"; ②
```



The Reference variable str1 and str2 are pointing towards the same object

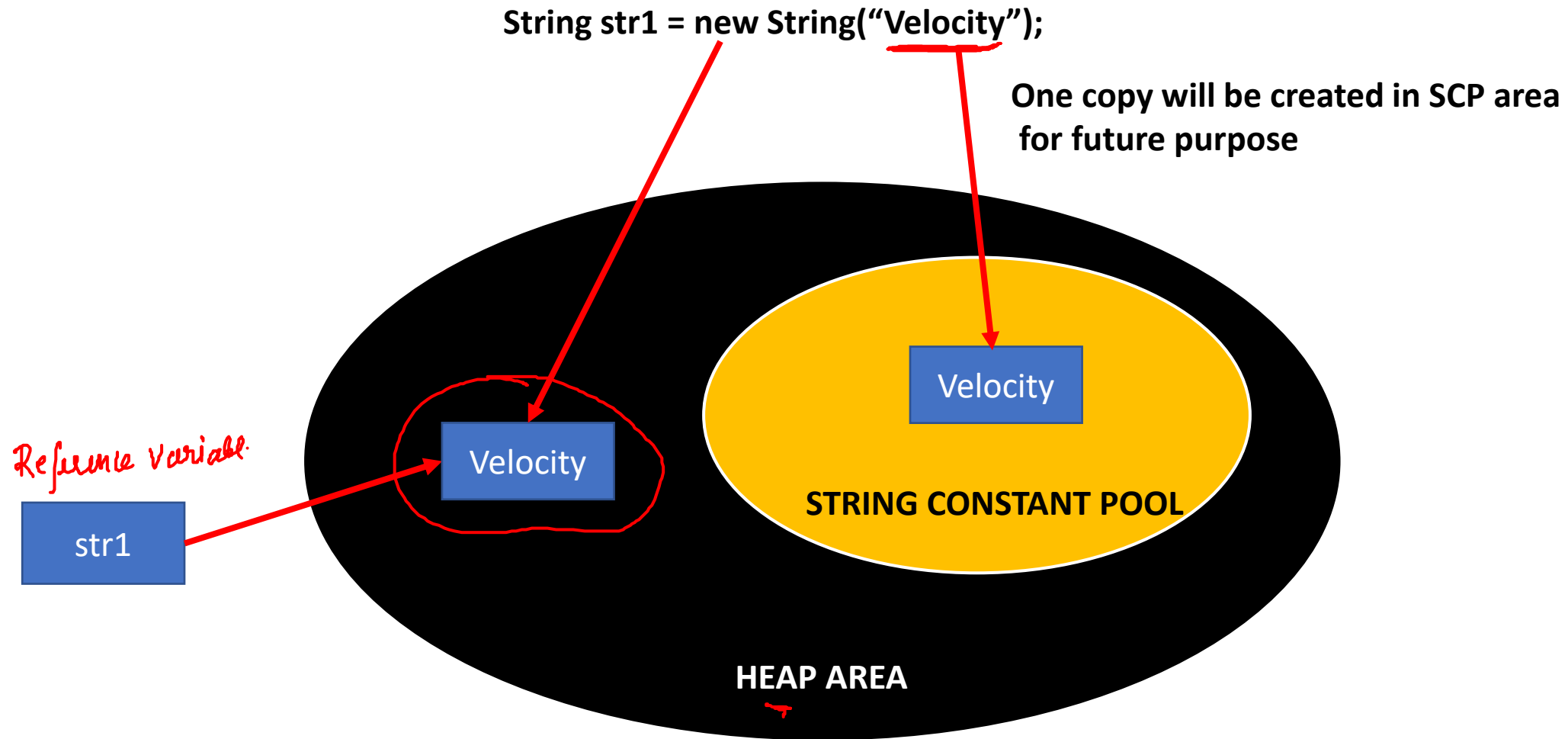
## ② By new Keyword-

- Example- String str1 = new String("Velocity");
- In such case, JVM will create the new String object in normal(non-pool) heap memory and literal "Velocity" will be placed in string constant pool. The variable s refer to object in heap(non-pool).

str1

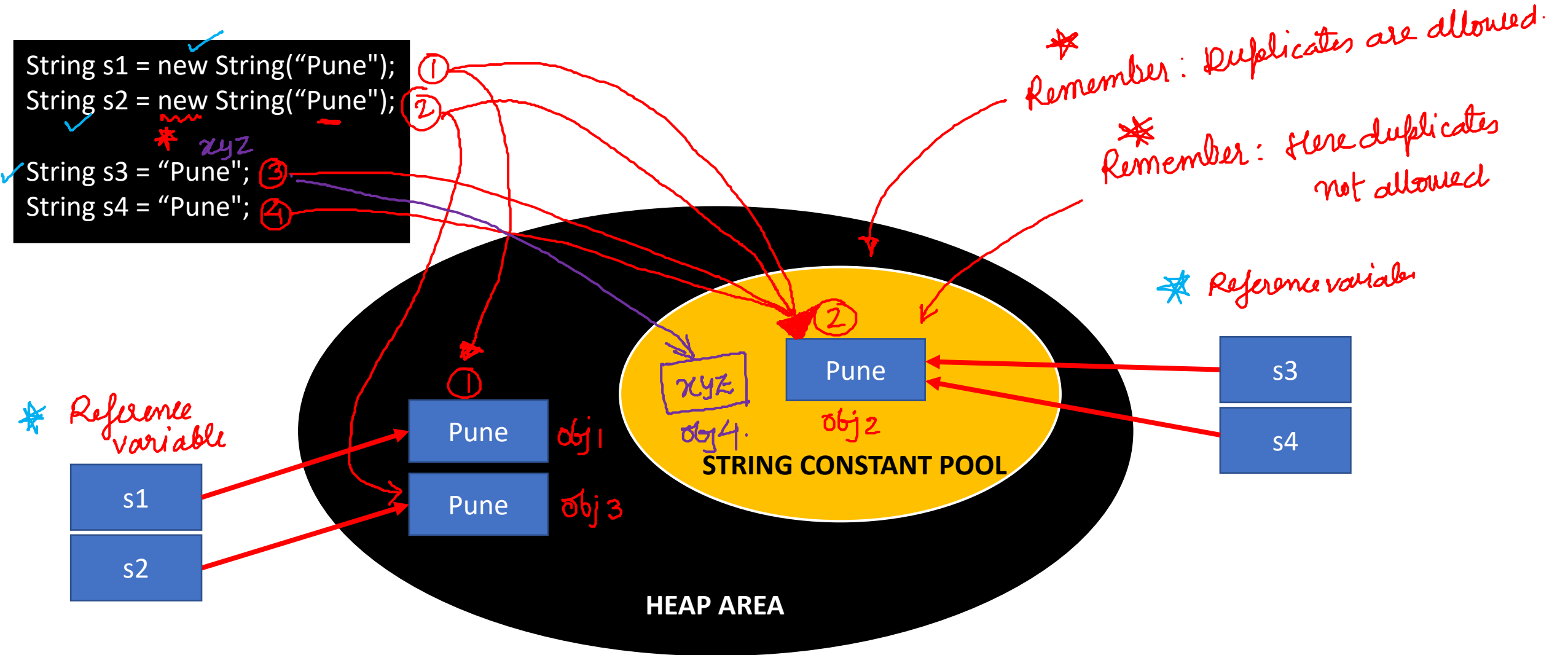


# Allotting memory....



The Reference variable str1 is pointing towards the object in Heap area.

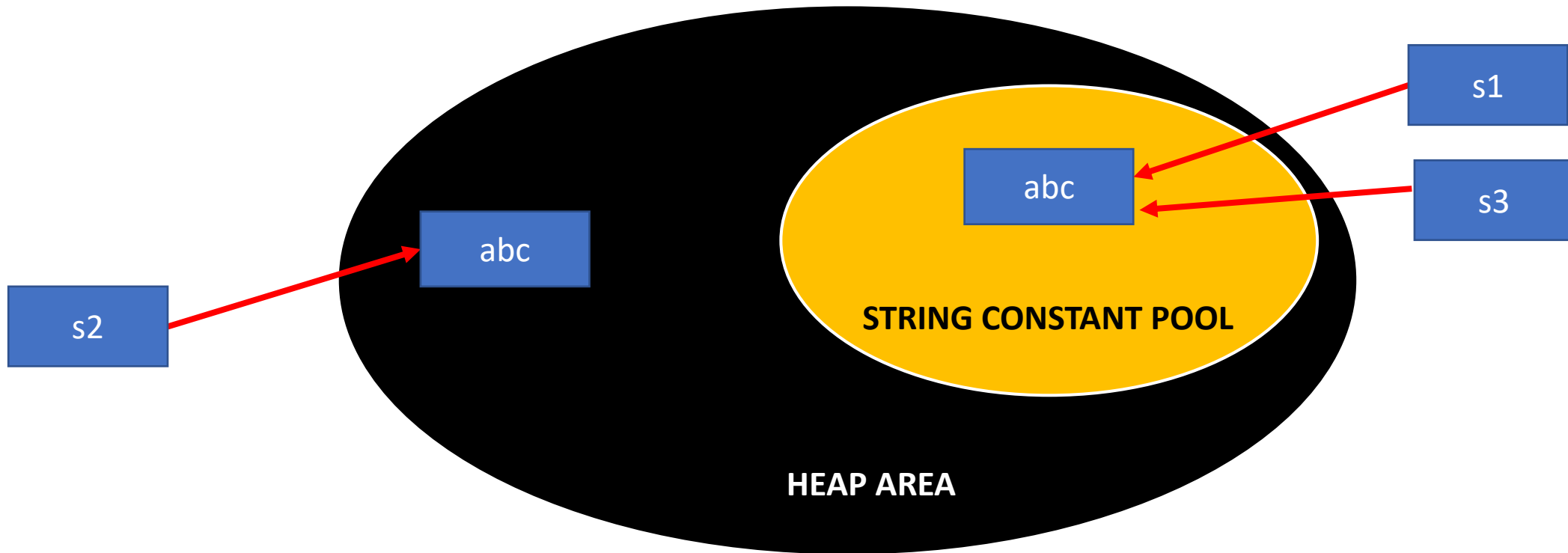
# How many objects are created for below code?



Total of 3 objects will be created. Out of three objects , two objects will be created in heap area and one object in SCP area.

# How to compare the strings as per below code?

```
String s1 = "abc";  
String s2 = new String("abc");  
String s3 = s2.intern();  
System.out.println(s1 == s2); // False  
System.out.println(s2 == s3); // False  
System.out.println(s1 == s3); // True  
System.out.println(s1.equals(s2)); // True
```



# Key Points

- 1. Strings are objects in Java.
- 2. When we create a String object, we are creating a string that cannot be changed. In other words, once a String object has been created, we cannot change any characters in string. Therefore, string object is immutable in Java.
- 3. The number of characters in a string is called length of string. For example, the length of "Hello" is 5.
- 4. String class in Java has numerous methods for string manipulation.
- 5. String is not a primitive data type. It is a reference data type

# Different Ways to Compare two strings ?

- By equals() method : It checks the content of string.
- By == operator (double equal operators) : It checks the Address of strings

