## 1.OOP

## 2.COLLECTIONS

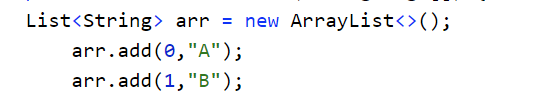
1. Q:How remove elements in Array List

A:

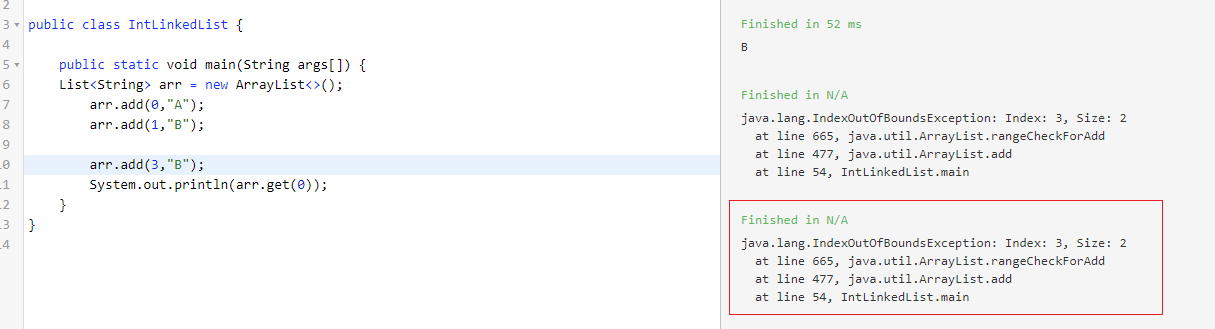
* [Remove(index)]
* [Remove(object)]
* [clear]

2. Q: How add elements in ArrayList using explicit index

A:



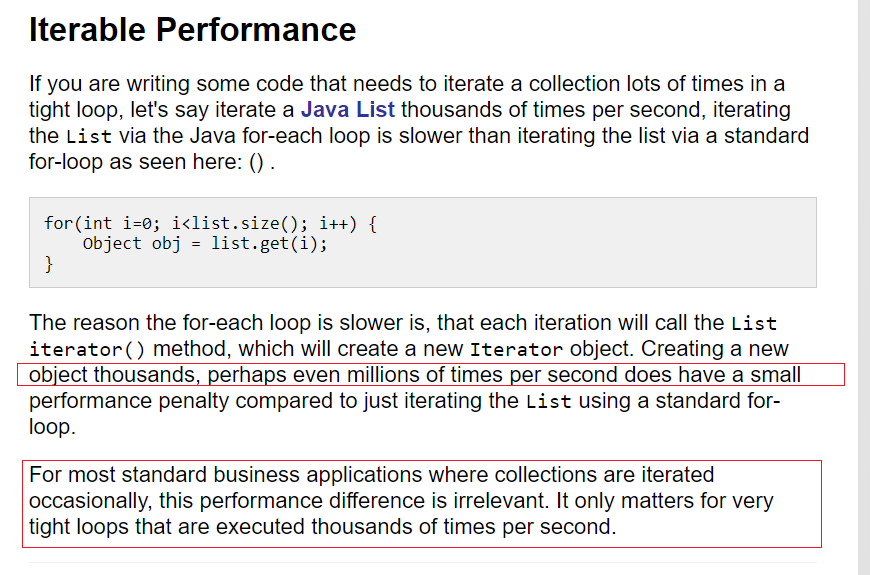
3. Q: if you use sparse indexes (0,1,..,3) to add data what happens



4. What is difference between Collections and Collection?

* **Collections** – is utility class
* **Collection** - is a top level interface of java collection framework

5. Performance



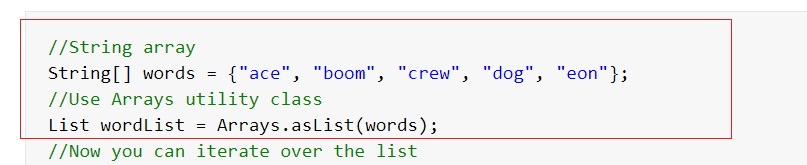
6. Why Map does not extend Collection interface

Answer: because Collection and Map are incompatible

Collection has method [add(Object)] to insert data

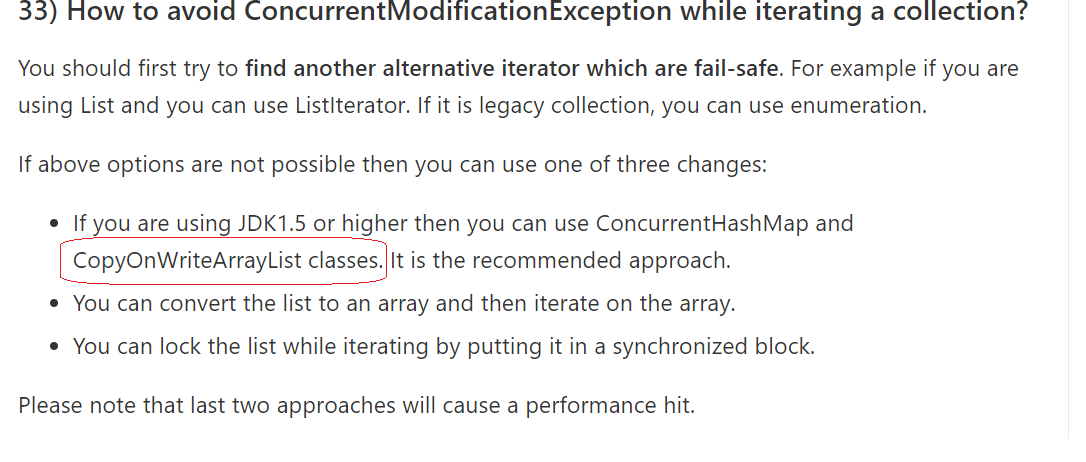
Map uses [put(Key,Value)] method

7. How convert array of String to arrayList



8.HashTable vs HashMap

9.



10. Question: What is a difference between abstraction and encapsulation?

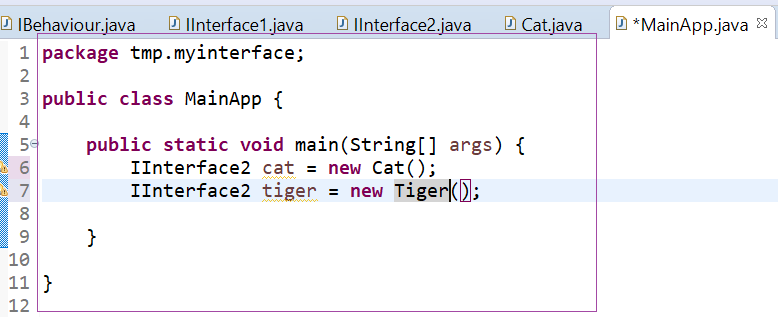
Answer:

1. **Abstraction is implementation hiding, while encapsulation is data hiding**.
2. Abstraction is implemented using abstract class and interface while encapsulation is implemented using access modifiers(private, )

11. Question: Why we need interface without methods?

Answer:

**Tagged or Marker interface** – is interface without methods. These methods are used to tag or marking a class. So that you can determine whether someclass is a child of those classes.



Example of marker interfaces are **Serializable, Cloneable.**

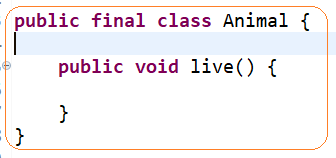
12. Question: Can we declare the interface as final?

Answer: No, we can't declare the interface as final because the implementation of the interface is provided by another class.

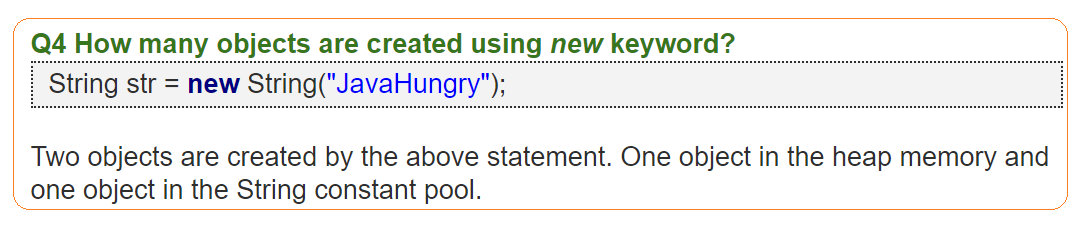
13. Question: Can class be marked as final?

Answer:

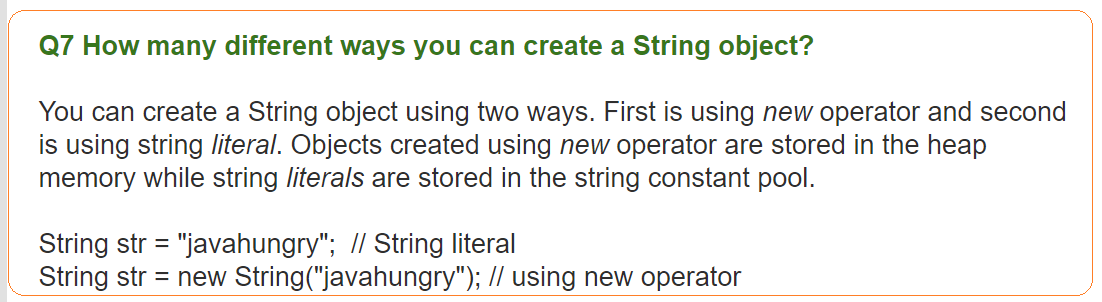
If class marked as [final] you cannot make inheritance. That is another class can not be extended by this final class. It is usually by done for security purposes



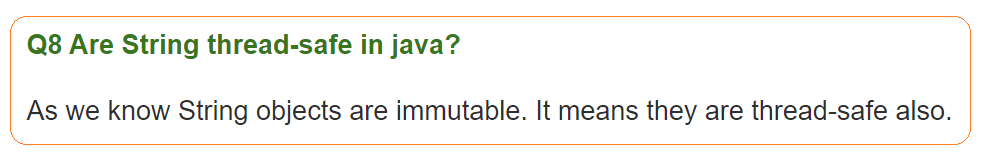
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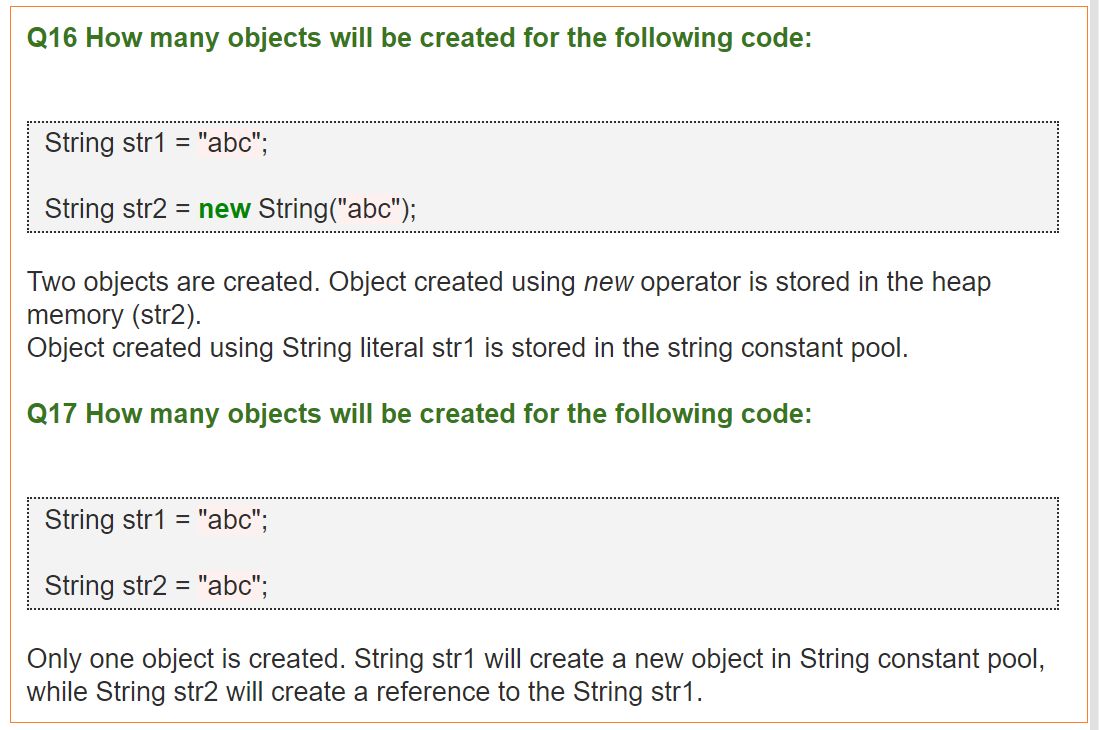
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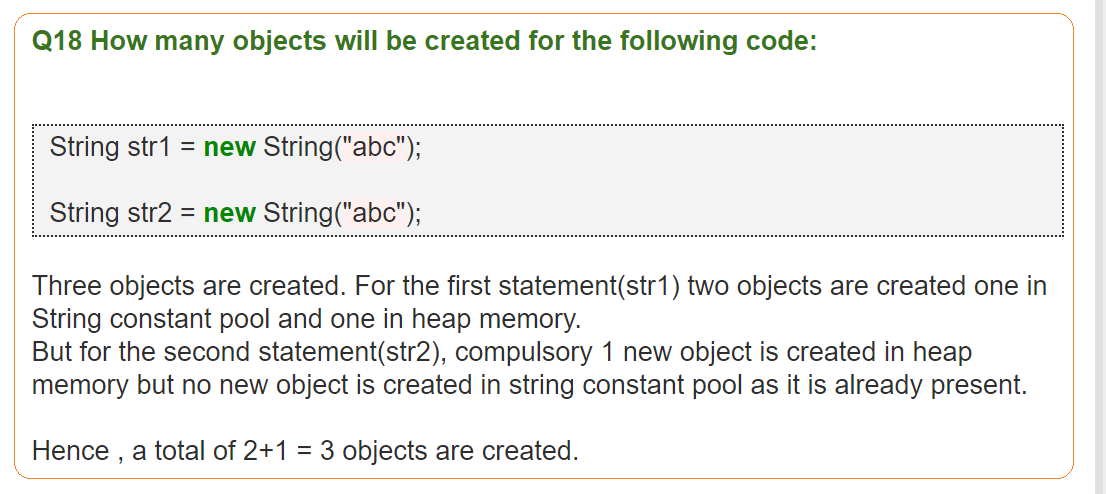
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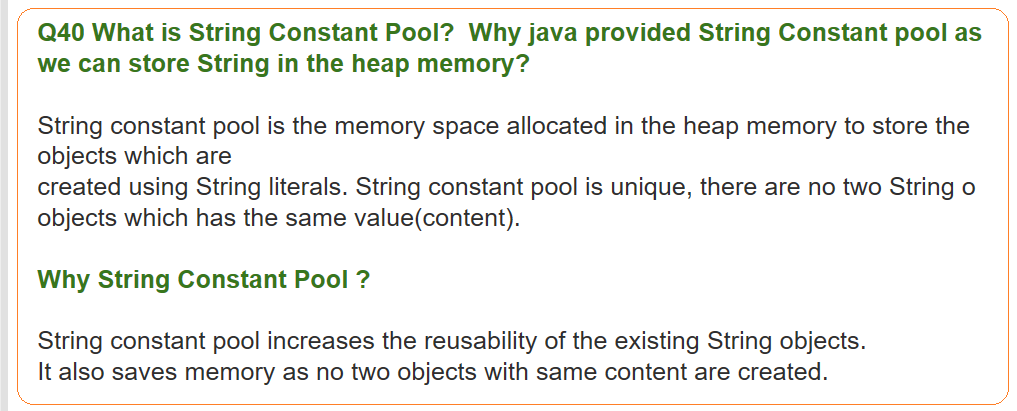
17.



18



19



20. What ways are to create new instance in Java

21. System monitoring

Micrometer: Exposes the metrics from our application

Prometheus: Stores our metric data

Grafana: Visualizes our data in graphs

22. How to check performance of application and what issues can be ?

23. What code can not be tested? Examples?

## **SPRING**

1. IOC vs Dependency Injection

2. How IOC can be implemented?

2. Spring. There are a few implementations of Interface. How deal with multiple implementations of a given service interfaces ?