Daily Homework

03/16/2022

Notes and Q&A:

<https://docs.google.com/document/d/1O7ogrWUuttxBATKADPk98zPqyQcgCWbdF18YKx0xcSQ/edit?usp=sharing>

Checklist:

<https://docs.google.com/document/d/1fmYhFHUIy44UIId1fpUUV-vWt9RdjD0ghkv9n5PqzBw/edit?usp=sharing>

1. What have you reviewed today?

0, Preparation to 8, Collection

* JDK
  + JRE
  + Compiler (javac)
  + Documentation Generator (javadoc)
  + others
* JRE
  + JVM
  + Java Class Library
  + Java Class Loader
* JVM
* Class Loader
* Runtime Memory/Data Area
* Execution Engine
* Maven
* Deals with dependencies in one file, POM.XML
* String vs StringBuilder vs StringBuffer
* String Constant Pool
  + A special area in heap
  + Decrease memory overhead
* Equals()/hashcode()
  + Override together: Hash related implementation
* Collection
  + Set
  + Queue
  + List
  + Diff ConcurrentHashmap vs Hashtable vs hashmap

There’s no default value for local variables, unlike instance variables.

1. What new things you have learned today?

**Reflection:**

* java.lang.reflect package
* Reflection can be used to get information about –

1. Class
2. Constructor
3. Method

* Can access private variables and methods via reflection
* Advantage

1. **Extensibility Features**
2. **Debugging and testing tools**

* Drawback

1. **Performance Overhead**
2. **Exposure of Internals**

**Design Patterns:**

* **Singleton**
* Reduce initialization overhead
* **Factory**
  + - * Creating object without exposing the logic and the details to the client
* **Builder**
* Simplifies the creation of an object
* **Proxy**
  + create an intermediary that acts as an interface to another resource, also hiding the underlying complexity of the component.

1. What is your learning plan tomorrow?
2. Review JVM and Garabage Collector in Java
3. Learn new class materials after class
4. Maybe a coding question on Stack