Assignment 4

1. What’s the difference between final, finally? What is finalize()?

final: The final keyword is a non-access modifier used for classes, attributes and methods, which makes them non-changeable (impossible to inherit or override).

1. What’s the difference between throw and throws?

throw: Used to throw an exception for a method

throws: Used to indicate what exception type may be thrown by a method

1. What are the two types of exceptions?

Checked exception: compile time exception and unchecked exception: runtime exception

1. What is error in java?

In Java, an error is a subclass of Throwable that tells that something serious problem is existing, and a reasonable Java application should not try to catch that error.

1. Exception is object, true or false?

True

1. Can a finally block exist with a try block but without a catch?

Yes

7. From java 1.7, give an example of the try-resource feature.

Text

Description automatically generated

8. What will happen to the Exception object after exception handling?

The Exception object will be garbage collected in the next garbage collection.

9. Can we use String as a condition in switch(str){} clause?

yes

10. What’s the difference between ArrayList, LinkedList and vector?

Arraylist uses a dynamic array and Linkedlist uses doubly Linkedlist.

Arraylist and linkedlist are not synchonized and vector is synchronized..

Vector is also deprecated

11. What’s the difference between hashTable and hashMap?

Hashtable is synchronized whereas hashmap is non-synchronized

12. What is static import?

With the help of static import, we can access the static members of a class directly without class name or any object. For Example: we always use sqrt() method of Math class by using Math class i.e. Math.sqrt(), but by using static import we can access sqrt() method directly.

13. What is static block?

The static block is a block of statement inside a Java class that will be executed when a class is first loaded into the JVM. A static block helps to initialize the static data members, just like constructors help to initialize instance members

14. Explain the keywords:

default(java 1.8), break, continue, synchronized, strictfp, transient, volatile, instanceOf

* default: a) access modifier. b) default label in switch statement c) declare default

methods in functional interface

* break: The break keyword is used to break out a for loop, a while loop or a switch block.
* continue: The continue keyword is used to end the current iteration in a for loop (or a

while loop), and continues to the next iteration.

* synchronized: A piece of logic marked with synchronized becomes a

synchronized block, allowing only one thread to execute at any given time.

* strictfp: strictfp is used to ensure that floating points operations give the same result on any platform.
* transient: The transient keyword in Java is used to avoid serialization. If any object of a data structure is defined as a transient, then it will not be serialized. Serialization is the process of converting an object into a byte stream.
* volatile: The Java volatile keyword is used to mark a Java variable as "being stored in main memory", making it thread safe
* instanceof: The instanceof keyword checks whether an object is an instance of a specific

class or an interface.

15. Create a program including two threads – thread read and thread write.

Input file ->Thread read -> Calculate -> buffered area Buffered area -> Thread write -> output file  
Detailed description is in assignment4.txt file. Sample input.txt file.

Attached files are input.txt and a more detailed description file.

Please check github