

Assignment 4

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

Final keyword is used with the classes, methods and variables. Finally block is always related to the try and catch block in exception handling. finalize() method is used with the objects.

2. What's the difference between throw and throws?

Both throw and throws are the concepts of exception handling in which throw is used to explicitly throw an exception from a method or any block of code while throws are used in the signature of the method to indicate that this method might throw one of the listed type exceptions.

3. What are the two types of exceptions?

Checked and unchecked exceptions.

4. What is error 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.

4. Exception is object, true or false?

When an error occurs within a method, the method creates an object and hands it off to the runtime system. The object, called an exception object. So its True.

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

Yes, It is possible to have a try block without a catch block by using a final block.

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

A try statement that declares one or more resources. The resource is as an object that must be closed after finishing the program. The try-with-resources statement ensures that each resource is closed at the end of the statement execution.

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

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

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

Yes

9. What's the difference between ArrayList, LinkedList and vector?

They are all implemented by the List Interface. ArrayList and Vectors use resizable arrays as their internal data structure. That is why we can fast access value with arraylist. ArrayList and LinkedList are both not synchronized. One is fast on access, one is fast on modify.

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

12. What is static import?

we can access the static members of a class directly without class name or any object.

13. What is static block?

a set of instructions that is run only once when a class is loaded into memory.

14. Explain the keywords:

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

Default - The default keyword specifies some code to run if there is no case match in the switch

Break - terminates the loop immediately, and the control of the program moves to the next statement following the loop.

Continue - used to end the current iteration in a for loop (or a while loop), and continues to the next iteration.

Synchronized - the capability to control the access of multiple threads to any shared resource.

Strictfp - strictfp is an obsolete and unused reserved word in the Java programming language.

transient 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.

Volatile - tells the compiler that the value of a variable must never be cached as its value may change outside of the scope of the program itself.

instanceOf - used to test whether the object is an instance of the specified type (class or subclass or 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.

```

secondLarge.java < CountFiles.java < Shape.java < Rectangle.java < Square.java < ListAndMap.java < txtRead.java < Circle.java <
import java.io.BufferedReader;
import java.io.*;

public class TxtRead {
    1 usage
    public static String txtToString(File file){
        StringBuilder result = new StringBuilder();
        try{
            BufferedReader br = new BufferedReader(new FileReader(file));
            String s = null;
            while((s = br.readLine())!=null){
                result.append(System.lineSeparator()+s);
            }
            br.close();
        }catch(Exception e){
            e.printStackTrace();
        }
        return result.toString();
    }

    public static void main(String[] args){
        File file = new File( pathname: "C:\\Users\\Administrator\\Desktop\\CountFiles\\Assignment4\\input.txt");
        System.out.println(txtToString(file));
    }
}

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2 + 2

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3 + 1 - 2