CSCI 392 - Java
Final Exam Review Questions

1. When I compile a C++ program I get an executable file such as a.out. Why doesn't the java compiler give me an executable file like a.out?

2. Java is an interpreted language, not a compiled language. In Dr. Garrison's language course I learned that interpreted languages are really slow. So, why is Java interpreted instead of compiled?

3. In most languages the storage capacity of an int is determined by the architecture and operating system. Why are ints in Java always 32 bits?

4. To create an array of 10 integers in C++, all I have to do is:
   ```
   int myarray[10];
   ```
   but in Java I have to type all this stuff
   ```
   int myarray[] = new int[10];
   ```
   Why?

5. What is the difference in public, protected, and private?

6. What are class fields and class methods? (class field = static field)

7. Give an example of a good use of a class/static field.

8. Why can you ignore some exceptions, but not others?

9. If fields can be initialized, why use a constructor?

10. When a new class extends an existing class, what gets inherited from the existing class?

11. When a new class extends an existing class, what does not get inherited from the existing class?

12. What is the difference in "overriding" and "overloading"?

13. Describe the protocol for a client to request a page from a web server.

14. What is "parsing"?

15. The Java functions to load a Jpeg image are "nonblocking". What does that mean?

16. What is the purpose of the reserved word "this"?

17. What is the purpose of the reserved word "super"?

18. What is the purpose of an arraylist?

19. Fix the two errors in the code on the next page.

```java
// sum all the integers in a file

import java.io.*;

public class filetest4
{
    public static void main(String[] args) throws IOException
    {
        String fname;                  // name of the input file
        String dataline;               // data value from file
        int sum = 0;                   // sum of the values

        // prompt and read the name of the file
        InputStreamReader stdio = new InputStreamReader(System.in);
        BufferedReader keyboard = new BufferedReader(stdio);
        System.out.print("Enter the name of a file to process: ");
        fname = keyboard.readLine();

        // open the data file
        try
        {
            FileReader freader = new FileReader(fname);
            BufferedReader inputFile = new BufferedReader(freader);
        }
        catch (IOException e)
        {
            System.out.println("Error: Unable to open file: " + fname);
            System.out.println("Can not recover from error.  Exiting.");
            return;
        }

        // read until eof and sum the values
        try
        {
            dataline = inputFile.readLine();
            while (dataline != null)
            {
                sum += Integer.parseInt(dataline);
                dataline = inputFile.readLine();
            }
            inputFile.close();
        }
        catch (Exception e)
        { }
        catch (IOException e)
        {
            System.out.println("Error reading from file");
        }

        // print the final sum
        System.out.println ("The sum = " + sum);
    }
}
```