

# St. Louis JUG Trivia Night

January 2010

# Format

- A round is made up of several questions on a topic (usually five)
- The questions will be presented with one minute for teams to come up with an answer.
- Teams turn in their answers at the end of the round before the next set of questions is provided.
- Once questions are turned in, no revisions are allowed.
- After all questions have been asked, answered, and scored, the team with the most points wins.

# Guidelines

- No textbooks, computers, phones, or any other external source of information may be used.
  - We want to know what you know, not what you can look up. :-)
- Clarification questions may be asked as time permits. Questions and answers should/will be spoken so that all teams can hear them.
- No partial credit; in order to get one point for answering a question that asks for more than one piece of information, all required pieces of information must be correct.
- You cannot use methods defined in `java.lang.Object` in your answers.
- Steering Committee members can't participate (and will refrain from helping others before or during the evening).

# History of Java

- 1) Who is the inventor of Java?
- 2) What was the original name for the Java programming Language?
- 3) In what year was Java officially released (under the name Java)?
- 4) What is the magic number at the start of a Java class file?
- 5) What was the name of the web browser written entirely in Java?

# AWT

- 1) When the user presses and releases the 'a' key while the focus is on a TextField, what AWT events are dispatched?
- 2) Does the Java 6 `java.awt.SystemTray` class work on Mac OS X?
- 3) What are the classes in the `java.awt.color` package for?
- 4) How do you get the screen resolution?
- 5) What does `java.awt.Container.validate()` do?

# IO

- 1) What java.io interface signifies that a data source or destination can be closed?
- 2) DataInputStream extends the interface DataInput.  
How is EOF signaled for a DataInput read() method?
- 3) System.out.format allows you to specify a format string for printing formatted output. When using a format specifier, what is the best way to specify a new line?
- 4) As of Java6, what method in Console will prompt for and read the user's existing password?

# IO (cont)

5) What does this print?

```
import java.io.StreamTokenizer;
import java.io.StringReader;
public class STTry {
    public static void main(String args[]) throws Exception {
        StreamTokenizer st =
            new StreamTokenizer(new StringReader("HaPpY NeW YeAr");
        st.whitespaceChars(Character.getNumericValue('A'),
            Character.getNumericValue('Z'));
        int hmmm = 0;
        while (st.nextToken() != StreamTokenizer.TT_EOF) {
            hmmm++;
        }
        System.out.printf("hmmm, looks like about %d tokens\n", hmmm);
    }
}
```

# JDBC

- 1) Name the methods in the `java.sql.Statement` class that are used to:
  - A. execute SQL select statements
  - B. execute SQL insert, update and delete statements
  - C. execute arbitrary SQL statements
  - D. execute more than one SQL statement specified in Java code, not in a stored procedure
- 2) By default, JDBC commits changes made by executing SQL statements immediately after they execute. What line of code disables that so the code can decide when to commit or rollback changes in a transaction?
- 3) What class is used to invoke SQL stored procedures?
- 4) What class is used to efficiently execute the same statement repeatedly with different "parameter" values?
- 5) In JDBC, what class is responsible for selecting the driver that will be used to communicate with a specified database?



# Swing

- 1) What was the inspiration for the name "Swing"?
- 2) Name at least ten Swing components that are typically visible widgets, not just containers for other widgets.
- 3) Most Swing components don't store the data they display in the class of the component, but instead get it from an associated object that is referred to as the \_\_\_\_\_ object for the component.
- 4) Most layout managers are defined in the java.awt package. Name one layout manager that is defined in the javax.swing package.
- 5) What class was included in Java 6 to simplify executing long-running tasks off of the event dispatch thread (EDT)?

# Collections

- 1) Name one non-optional method `java.util.ListIterator` has that `java.util.Iterator` does not.
- 2) Can a single-threaded Java program throw a `java.util.ConcurrentModificationException`?
- 3) Does `Map<K,V>` extend `Collection<E>` for some `E`?
- 4) True/False: A `HashSet` is internally implemented using a `HashMap`.
- 5) Name three methods of the `java.util.Arrays` utility class.

# Java 7

- 1) Will some form of closures be in Java 7, if so, what is the project name?
- 2) What was the name of the project to include a "set of small changes" in Java 7?
- 3) Which new Java 7 syntax permits annotations to be written in more places, such as generic type arguments: `List<@NonNull Object>`?  
(Programmers can use this syntax to write more informative types, and then tools such as type-checkers can detect and prevent more errors.)

# Java 7 (cont)

- 4) What is the name of the Java 7 project that will create a simple, low-level module system whose design will be focused narrowly upon the goal of modularizing the JDK?

Bonus: Will this module system be supported in the JSE 7?

- 5) What is the name of the new Java 7 language feature that will "allow a language compiler to compile a non-Java call site with a language-specific handler which determines call site linkage at runtime. Linkage can be sensitive to dynamic argument types, and can be updated or revoked over time."

# Concurrency

- 1) What is the class in `java.util.concurrent` that provides an Integer that may be atomically updated?
- 2) What `java.util.concurrent` Interface does a concurrent programmer keep going back to when needing to represent the result of an asynchronous computation?
- 3) What reusable synchronization aid allows a set of threads to wait for each other to reach a common barrier point?
- 4) Two `java.util.concurrent` Interfaces extend the `java.util.concurrent.Executor` Interface. Name one.
- 5) `CopyOnWriteArraySet` is a thread-safe Set in which all mutative operations are implemented by making a fresh copy. What is the `java.util.concurrent` class used to implement `CopyOnWriteArraySet`?

# Java Persistence API

- 1) What three classes must you use (perhaps only once) in order to create a Transaction?
- 2) Which two annotations are required to make a Java object persistable using JPA?
- 3) Name three of the four basic relationship mapping annotations
- 4) Name the two main classes used to find persistent objects via JPA
- 5) Name one of the two JPA annotations that can be used to fine-tune the `@GeneratedValue` annotation

# Code Quiz 3

- What is the output of the following program when it is invoked using this command line:

`java TestClass Now is the time.`

1) Now

2) is

3) the

4) time.

```
class TestClass {  
    public static void main(String[] args)  
    {  
        System.out.println(args[1]);  
    }  
}
```

# Code Quiz 6

- What is the value of the variable 'a' after executing the following statements:

A) 3

```
int a = 3;
```

B) 4

```
int b = 5;
```

C) 5

```
a = b++;
```

D) 6