

OCA/OCP JAVA® SE 8 PROGRAMMER

PRACTICE TESTS

SCOTT SELIKOFF AND JEANNE BOYARSKY

Provides 1,000 questions that include 2 practice exams covering all sections of the OCA and OCP Java SE 8 Programmer objective domains.

Complements the *Sybex OCA Java SE 8 Programmer I Study Guide: Exam 1Z0-808* and *OCP Java SE 8 Programmer II Study Guide: Exam 1Z0-809*.

OCA/OCP

Java® SE 8 Programmer

Practice Tests



Scott Selikoff
Jeanne Boyarsky

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10 9 8 7 6 5 4 3 2 1

To the new little bundle of joy my wife is carrying.

— Scott

Remembering Einstein and CV in same year. Congrats 694!

— Jeanne

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Last but not least, both Scott and Jeanne would like to give a big thank you to the readers of our OCA 8 and OCP 8 books. Hearing from all of you who enjoyed the book and passed the exam is a great feeling. We'd also like to thank those who pointed out errors and made suggestions for improvements in our OCP book. As of December 2016, the top three were Guillaume Bailly, Thalita Vergilio, and Sébastien Canonica. We also would like to thank Olivier Chalet, Mihaela Hetea, Peter Deak, Anton Shaikin, Ramya R, Tim Moroz, Aurelien Gamet, Javid Azimli, Salim Rahal, and Sander Wamelink.

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A native of Toms River, New Jersey, Scott achieved his Bachelor of Arts from Cornell University in Mathematics and Computer Science in 2002, after three years of study. In 2003, he received his Masters of Engineering in Computer Science, also from Cornell University.

As someone with a deep love of education, Scott has always enjoyed teaching others new concepts. He's given lectures at Cornell University and Rutgers University, as well as conferences including the Server Side Java Symposium. Scott lives in New Jersey with his loving wife, Patti; amazing twin toddler daughters, Olivia and Sophia; and two very playful dogs, Webby and Georgette. You can find out more about Scott at <http://www.linkedin.com/in/selikoff>.

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Scott and Jeanne are both moderators on the CodeRanch.com forums, and they can be reached there for questions and comments. They also co-author a technical blog called Down Home Country Coding at <http://www.selikoff.net>.

In addition to this book, Scott and Jeanne are also the authors of *OCA Oracle Certified Associate Java SE 8 Programmer I Study Guide* (Sybex, 2015) and *OCP Oracle Certified Professional Java SE 8 Programmer II Study Guide* (Sybex, 2016). More recently, these two books have been combined into the single release *OCA / OCP Java SE 8 Programmer Certification Kit: Exam 1Z0-808 and Exam 1Z0-809* (Sybex 2016).

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Introduction

This book is intended for those taking either the 1Z0-808 or 1Z0-809 Oracle Java Programmer exams as well as those who want to test their knowledge of Java 8. If you are new to Java 8, we strongly recommend you start with a study guide to learn all of the facets of the language and come back to this book once you are thinking of taking the exam.

We recommend the best-selling *OCA Oracle Certified Associate Java SE 8 Programmer I Study Guide* and *OCP Oracle Certified Professional Java SE 8 Programmer II Study Guide*, which we happen to be the authors of, to start in your studies. Regardless of which study guide you are using to prepare, you can use this book to hone your skills, since it is based on topics on the actual exams.

Unlike the questions in our study guides, which are designed to be harder than the real exam, the questions in this book mirror the exam format. All the questions in this book tell you how many answers are correct. They will say “Choose two” or “Choose three” if more than one answer is correct.

Throughout this book, we use the same set of assumptions that Oracle uses for its exams. In many cases, these assumptions are actually accounting for unintended omissions or typesetting errors that Oracle is directing you to ignore when solving a question focused on a particular exam objective. The assumptions are listed at <http://education.oracle.com> and listed here for your convenience:

- **Missing package and import statements:** If sample code does not include package or import statements, and the question does not explicitly refer to these missing statements, then assume that all sample code is in the same package, and import statements exist to support them.
- **No file or directory path names for classes:** If a question does not state the file names or directory locations of classes, then assume one of the following, whichever will enable the code to compile and run:
 - All classes are in one file.
 - Each class is contained in a separate file, and all files are in one directory.
- **Unintended line breaks:** Sample code might have unintended line breaks. If you see a line of code that looks like it has wrapped, and this creates a situation where the wrapping is significant (for example, a quoted String literal has wrapped), assume that the wrapping is an extension of the same line, and the line does not contain a hard carriage return that would cause a compilation failure.
- **Code fragments:** A code fragment is a small section of source code that is presented without its context. Assume that all necessary supporting code exists, and that the supporting environment fully supports the correct compilation and execution of the code shown and its omitted environment.
- **Descriptive comments:** Take descriptive comments, such as “setter and getters go here,” at face value. Assume that correct code exists, compiles, and runs successfully to create the described effect.

Choosing an Exam

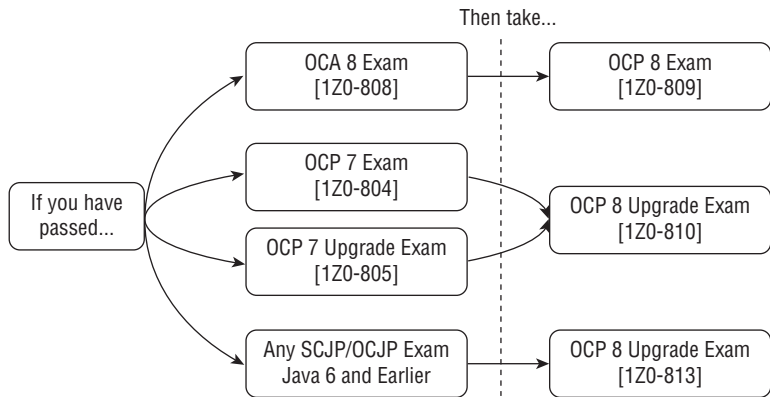
The first step on the road to a Java certification is the Oracle Certified Associate 1Z0-808 (OCA 8) exam. The material includes the basic day-to-day tools every Java developer should be familiar with. Once you have completed that exam, you can move on to the more difficult Oracle Certified Professional 1Z0-809 (OCP 8) exam. This includes every topic on the first exam, along with many additional libraries and APIs that you may not even be familiar with in your career, such as the Concurrency and NIO.2 APIs.

If you already hold a Java certification, you are eligible for an upgrade exam. Table I.1 and Figure I.1 show the various pathways to the OCP 8 certification title. This book will help you prepare for all four of the exams listed in the table.

TABLE I.1 Exams this book covers

Exam Code	Name	Who should take
1Z0-808	Java Programmer I	Everyone can take this exam.
1Z0-809	Java Programmer II	Those who pass the OCA 8 exam
1Z0-810	Upgrade Java SE 7 to Java SE 8 OCP Programmer	Holders of an OCP 7 certification
1Z0-813	Upgrade to Java SE 8 OCP (Java SE 6 and all prior versions)	Holders of any of the following certifications: ■ SCJP/OCJP 6 ■ SCJP/OCJP 5 ■ SCJP 1.4 Any older SCJP certs

FIGURE I.1 Exam prerequisites



For the OCA exam, we recommend a study plan that uses our *OCA Oracle Certified Associated Java SE 8 Programmer I Study Guide* along with Chapters 1 through 10 of this book. For the OCP exam, we recommend a study plan that uses our *OCP Oracle Certified Professional Java SE 8 Programmer II Study Guide* along with Chapters 11 through 23 of this book. That’s right, this book is actually two books in one! It assists you for both the OCA and OCP exams.

Taking an Upgrade Exam

There are some subtle differences in how you should prepare if you are taking one of the upgrade exams. The good news is that if you currently hold a Java 7 OCP certification and are taking the 1Z0-810 upgrade exam, this book is all you need. While the exam contains a stronger focus on changes between Java 7 and Java 8, there aren’t any new topics not covered with the existing OCP 7 material. This means you have the same study plan as those taking the OCP for the first time.

On the other hand, if you are taking the 1Z0-813 upgrade exam and hold a Sun Certified Java Programmer (SCJP) or Oracle Certified Java Programmer (OCJP) title, then you will need additional material. This upgrade inexplicably contains material that was in the Java 7 OCP exam but removed from the Java 8 version, such as `ReentrantLock` and `WatchService`. For that, we have no explanation, although this does make the 1Z0-813 arguably the most difficult of the three OCP exams because it requires knowing everything from multiple versions of Java.

Have no fear! When we wrote our *OCP Oracle Certified Professional Java SE 8 Programmer II Study Guide*, we added a special 50-page appendix, Appendix C, “Upgrading from Java 6 or Earlier,” which covers the topics solely on the 1Z0-813 exam in detail. If you are taking the 1Z0-813 exam, then after completing your studies with this book, you should consult our appendix in our OCP book or a Java 7 OCP study guide so that you are prepared for all of the objectives.

Considering Other Study Paths

If you already hold a Java certification, you are not required to take an upgrade exam. Some developers find it more straightforward to start with the easier 1Z0-808 OCA exam and then take the more challenging 1Z0-809 OCP exam. If you have no experience with Java 8 or just want more practice with it, taking the OCA exam followed by the OCP exam could be a better, albeit more expensive, learning experience than taking a single upgrade exam.

Also remember, if you do hold an old Java title and want to take an upgrade exam, you will need to prove it before you will be granted the OCP 8 title, even if you pass the upgrade exam. This requires registering your older certification with Oracle’s CertView system. We’ve heard feedback from some readers who had to search through old binders and emails from over a decade ago to submit the proper documentation that allows them to be granted the OCP 8 title.

Finally, if you are new to Java certification, it is traditional to take the exams in order, with the OCA exam followed by the OCP exam. However, this is a not strict requirement. It is possible, although quite unorthodox, to take the harder OCP exam first and then circle back to take the OCA exam. In this case, you'll be granted both OCA and OCP titles upon completion of the OCA exam. While we don't recommend this strategy, Oracle does allow it.

Who Should Buy This Book

If you are looking to take the OCA 8 exam (1Z0-808), then Chapters 1 through 10 of this book are for you. And once you've passed with flying colors, you'll have the OCP material handy in case you decide to take the exam.

If you are looking to take the OCP 8 exam (1Z0-809) or OCP 8 upgrade exam (1Z0-810), then Chapters 1 through 23 of this book are for you. While Chapters 1 through 10 are primarily focused on the OCA exam, the OCP exam is cumulative. We recommend you start reviewing the OCA Chapters (1–10) to make sure you have a solid foundation and then move on to the OCP Chapters (11–23) when you are ready.

As mentioned earlier, if you are looking to take the OCP 8 upgrade exam (1Z0-813), this book will still help for the vast majority of topics. You will need to supplement this book with a Java 7 study guide or use Appendix C in our OCP book, which focuses on the precise topics on the 1Z0-813 exam that you need to know.

Regardless of which exam you plan to take, make sure to always keep your study guide handy. This book is about honing your knowledge of Java 8, while your study guide is about building it.

How This Book Is Organized

For this book, we decided to write two books in one, divided into Parts I and II. Part I includes Chapters 1 through 10, with nine objective-based chapters for each of the OCA exam objective sets followed by a simulated OCA practice exam. Part II encompasses Chapters 11 through 23, with 12 objective-based chapters for each of the OCP exam objective sets followed by a simulated OCP practice exam.

There are some subtle differences between the objective-based chapters and practice exam chapters that you should be aware of while reading this book.

Using the Objective-Based Chapters

We designed the structure and style of each question in the objective-based chapters to reflect a more positive learning experience, allowing you to spend less time on each question but covering a broader level of material. For example, you may see two questions that

look similar within a chapter but contain a subtle difference that has drastic implications on whether or not the code compiles, or what output it produces.

Each question in the objective-based chapters has exactly four options with only one correct answer. Just like the review questions in our study guide, these questions are designed so that you can answer them many times. While these questions may be easier than exam questions, they will reinforce concepts if you keep taking them on a topic you don't feel strongly on.

In our study guides, we often group related topics into chapters. For example, if/then statements and loops, which are in separate Oracle objective sets, were presented in a single chapter on Operators and Statements in our OCA book. In this book, we decided to design our chapters solely around Oracle's objectives so you can strengthen your skills. While you don't need to read an entire study guide before using an objective-based chapter in this book, you do need to study the relevant objectives. Tables I.2 and I.3 show what chapters you need to have read in our study guides as a minimum before practicing with the questions in this book.

TABLE I.2 Reference in OCA study guide

Chapter in This Book	Objectives	OCA Study Guide Chapters
1	Java Basics	1
2	Working with Java Data Types	1, 3
3	Using Operators and Decision Constructs	2, 3
4	Creating and Using Arrays	3
5	Using Loop Constructs	2
6	Working with Methods and Encapsulation	4
7	Working with Inheritance	5
8	Handling Exceptions	6
9	Working with Selected Classes from the Java API	1, 3, 4

TABLE I.3 Reference in OCP study guide

Chapter in This Book	Objectives	OCP Study Guide Chapters
11	Java Class Design	1, 2
12	Advanced Java Class Design	1, 2, 3
13	Generics and Collections	3, 4
14	Lambda Built-in Functional Interfaces	2, 4
15	Java Stream API	3, 4
16	Exceptions and Assertions	6
17	Use Java SE 8 Date/Time API	5
18	Java I/O Fundamentals	8
19	Java File I/O (NIO.2)	9
20	Java Concurrency	7
21	Building Database Applications with JDBC	10
22	Localization	5

Using the Practice Exam Chapters

This book contains two full-length practice exam chapters, with Chapter 10 being an 80-question OCA practice exam and Chapter 23 being an 85-question OCP practice exam. The questions in these two chapters are quite different from the objective-based chapters in a number of important ways. These practice exam questions tend to be harder because they are designed to test your cumulative knowledge rather than reinforcing your existing skill set.

While all of the objective-based chapters had four options with only one correct answer, these questions have up to six options, with up to three correct answer choices. Based on feedback from our first two books, we do indicate exactly how many answers are correct in the practice exam chapters, as is done on the real exam. Some readers thought the lack of knowing the correct number of answers made the questions too challenging for studying.

Both practice exam chapters are designed to be taken within 150 minutes and have a passing score of 65 percent. Remember not to take the practice exam until you feel ready. There are only so many practice exams available, so you don't want to waste a fresh attempt.

While an objective-based chapter can be completed over the course of a few days, the practice exam chapters were designed to be completed in one sitting. You should try simulating the exam experience as much as possible. This means setting aside two and a half hours, grabbing a whiteboard or scrap paper, and answering every question even if you aren't sure of the answer. Remember, there is no penalty for guessing, and the more incorrect answers you can eliminate the better.

Reviewing Exam Changes

Oracle does change the number of questions, passing score, and time limit from time to time. In fact, the exam writers changed the number of OCA 8 questions from 77 to 80 while this book was being written! Scott and Jeanne maintain a blog that tracks updates to the real exams, as quickly as Oracle updates them:

<https://www.selikoff.net/jpt>

We recommend you read this page before you take the real exam, in case any of the information since the time this book was published has changed. Although less common, Oracle does add, remove, or reword objectives. When this happens, we offer free supplemental material on our website as blog entries.

Ready to Take the Exam

If you can score above 80 percent consistently on all of the chapters related to the exam you want to take, including the simulated practice exam, then you are probably ready to take the real exam. Just remember there's a big difference between taking a practice test at home and spending hundreds of dollars to take a real exam at a test center.

We could write an entire chapter on test taking skills and study tips. Oh wait, we did! Both our OCA 8 and OCP 8 books each contain an appendix chock-full of helpful tips and suggestions that are designed to help you manage your time. They also include notes on how to eliminate obviously wrong answers so that when you have to guess, you're choosing between two choices and not five.

Finally, although a lot of people are inclined to cram as much material as they can in the hours leading up to the exam, most studies have shown that this is a poor test-taking strategy. The best thing we can recommend that you do before the exam is to get a good night's rest!

Need More Help Preparing?

Both of the authors are moderators at CodeRanch.com, a very large and active programming forum that is very friendly toward Java beginners. It has separate forums for each of the exams:

OCA Forum: <https://coderanch.com/f/117>

OCP Forum: <https://coderanch.com/f/24>

If you don't understand a question, even after reading the explanation, feel free to ask about it in one of those forums. You'll get an answer from a knowledgeable Java programmer. It might even be one of us.

Good luck on the exam and happy studies!

Bonus Contents

This book has a web page that provides all the questions in this book using Wiley's interactive online test engine.



You can link to this from www.wiley.com/go/sybextestprep.

OCA

PART

I



Chapter 1

Java Basics

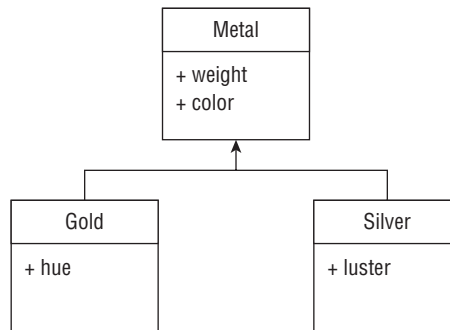
**THE OCA EXAM TOPICS COVERED
IN THIS PRACTICE TEST INCLUDE
THE FOLLOWING:**

✓ **Java Basics**

- Define the scope of variables
- Define the structure of a Java class
- Create executable Java applications with a main method; run a Java program from the command line; produce console output
- Import other Java packages to make them accessible in your code
- Compare and contrast the features and components of Java such as: platform independence, object orientation, encapsulation, etc.



1. Which of the following method signatures is a valid declaration of an entry point in a Java application?
 - A. `public void main(String[] args)`
 - B. `public static void main()`
 - C. `private static void start(String[] mydata)`
 - D. `public static final void main(String[] mydata)`
2. The following class diagram demonstrates the relationship between Gold and Silver, which extend the Metal class. Assume the attributes are all declared public. Which statement about the diagram is not true?



- A. The diagram demonstrates platform independence in Java.
 - B. The diagram demonstrates object-oriented design in Java.
 - C. The Gold and Silver classes inherit weight and color attributes from the Metal class.
 - D. Gold does not inherit the luster attribute.
3. What is the proper filename extension for a Java bytecode compiled file?
 - A. `.java`
 - B. `.bytecode`
 - C. `.class`
 - D. `.dll`
4. Given that a Date class exists in both the `java.util` and `java.sql` packages, what is the result of compiling the following class?


```

1: import java.util.*;
2: import java.sql.*;
3: public class BirthdayManager {
4:     private Date rob = new Date();
5:     private java.util.Date sharon = new java.util.Date();
6: }
      
```

- A. The code does not compile because of lines 1 and 2.
 - B. The code does not compile because of line 4.
 - C. The code does not compile because of line 5.
 - D. The code compiles without issue.
5. Which of the following is not a facet of traditional object-oriented programming languages?
- A. Objects are grouped as procedures, separate from the data they act on.
 - B. An object can take many forms via casting.
 - C. An object can hold data, referred to as attributes.
 - D. An object can perform actions, via methods.
6. Which variables have a scope limited to a method?
- A. Interface variables
 - B. Class variables
 - C. Instance variables
 - D. Local variables
7. Which package is imported into every Java class by default?
- A. `java.util`
 - B. `java.lang`
 - C. `system.lang`
 - D. `java.system`
8. Which of the following is not a valid code comment in Java?
- A. `// Add 5 to the result`
 - B. `/** TODO: Fix bug 12312 */`
 - C. `# Add configuration value`
 - D. `/* Read file from system */`
9. Which statement about a valid `.java` file is true?
- A. It can only contain one class declaration.
 - B. It can contain one `public` class declaration and one `public` interface definition.
 - C. It must define at least one `public` class.
 - D. It may define at most one `public` class.
10. Given the following application, fill in the missing values in the table starting from the top and going downward.

```
package competition;  
public class Robot {  
    static String weight = "A lot";  
    /* default */ double ageMonths = 5, ageDays = 2;
```

```

    private static boolean success = true;
    public void main(String[] args) {
        final String retries = "1";
        // P1
    }
}

```

Variable Type	Number of Variables Accessible at P1
Class	_____
Instance	_____
Local	_____

- A. 2, 0, 1
 B. 2, 2, 1
 C. 1, 0, 1
 D. 0, 2, 1
11. Which statement about `import` statements is true?
- A. The class will not compile if it contains unused `import` statements.
 B. Unused `import` statements can be removed from the class without causing a class to become unable to be compiled.
 C. The class will not compile if a duplicate `import` statement is present.
 D. If a class contains an `import` statement for a class used in the program that cannot be found, it can still compile.
12. What is the result of compiling and executing the following class?
- ```

1: public class ParkRanger {
2: int birds = 10;
3: public static void main(String[] data) {
4: int trees = 5;
5: System.out.print(trees+birds);
6: }
7: }

```
- A. It does not compile.  
 B. It compiles but throws an exception at runtime.  
 C. It compiles and outputs 5.  
 D. It compiles and outputs 15.

13. Which statements about Java are true?
- I. The `java` command can execute `.java` and `.class` files.
  - II. Java is not object oriented.
  - III. The `javac` command compiles directly into native machine code.
- A. I only
  - B. III only
  - C. II and III
  - D. None are true.
14. Which of the following lines of code is not allowed as the first line of a Java class file?
- A. `import widget.*;`
  - B. `// Widget Manager`
  - C. `package sprockets;`
  - D. `int facilityNumber;`
15. Which one of the following statements is true about using packages to organize your code in Java?
- A. Every class is required to include a package declaration.
  - B. To create a new package, you need to add a `package.init` file to the directory.
  - C. Packages allow you to limit access to classes, methods, or data from classes outside the package.
  - D. It is not possible to restrict access to objects and methods within a package.
16. Given that the current directory is `/user/home`, with an application Java file in `/user/home/Manager.java` that uses the default package, which are the correct commands to compile and run the application in Java?
- A. `javac Manager`  
`java Manager`
  - B. `javac Manager.java`  
`java Manager`
  - C. `javac Manager`  
`java Manager.class`
  - D. `javac Manager.java`  
`java Manager.class`
17. Structuring a Java class such that only methods within the class can access its instance variables is referred to as \_\_\_\_\_.
- A. platform independence
  - B. object orientation
  - C. inheritance
  - D. encapsulation

18. What is the output of the following code snippet?

```
String tree = "pine";
int count = 0;
if (tree.equals("pine")) {
 int height = 55;
 count = count + 1;
}
System.out.print(height + count);
```

- A. 1
  - B. 55
  - C. 56
  - D. It does not compile.
19. Which of the following is true of a Java bytecode file?
- A. It can be run on any computer with a compatible JVM.
  - B. It can only be executed on the same type of computer that it was created on.
  - C. It can be easily read and modified in a standard text editor.
  - D. It requires the corresponding .java that created it to execute.
20. What is the correct character for terminating a statement in Java?
- A. A colon (:)
  - B. An end-of-line character
  - C. A tab character
  - D. A semicolon (;)
21. What is the result of compiling and executing the following class?

```
1: public class Tolls {
2: private static int yesterday = 1;
3: int tomorrow = 10;
4: public static void main(String[] args) {
5: Tolls tolls = new Tolls();
6: int today=20, tomorrow = 40;
7: System.out.print(today + tolls.tomorrow + tolls.yesterday);
8: }
9: }
```

- A. The code does not compile due to line 6.
- B. The code does not compile due to line 7.
- C. 31
- D. 61

22. Given the following class definition, which is the only line that does not contain a compilation error?
- ```
1: public ThisClassDoesNotCompile {  
2:     double int count;  
3:     void errors() {}  
4:     static void private limit; }
```
- A. Line 1
 - B. Line 2
 - C. Line 3
 - D. Line 4
23. Which of the following features allows a Java class to be run on a wide variety of computers and devices?
- A. Encapsulation
 - B. Object oriented
 - C. Inheritance
 - D. Platform independence
24. Which of the following is not a property of a JVM?
- A. It prevents Java bytecode from being easily decoded/decompiled.
 - B. It supports platform independence.
 - C. It manages memory for the application.
 - D. It translates Java instructions to machine instructions.
25. Which of the following variables are always in scope for the entire program?
- A. Package variables
 - B. Class variables
 - C. Instance variables
 - D. Local variables
26. Given the following wildcard import statements, which class would be included in the import?
- ```
import television.actor.*;
import movie.director.*;
```
- A. television.actor.recurring.Marie
  - B. movie.directors.John
  - C. television.actor.Package
  - D. movie.NewRelease

- 27.** Which is the correct order of statements for a Java class file?
- A.** import statements, package statement, class declaration
  - B.** package statement, class declaration, import statement
  - C.** class declaration, import statements, package declaration
  - D.** package statement, import statements, class declaration
- 28.** Given the following class definition, what is the maximum number of import statements that can be discarded and still have the code compile? For this question, assume that the Blackhole class is defined only in the stars package.

```
package planetarium;
import java.lang.*;
import stars.*;
import java.lang.Object;
import stars.Blackhole;

public class Observer {
 public void find(Blackhole blackhole) {}
}
```

- A.** Zero
  - B.** One
  - C.** Two
  - D.** Three
- 29.** Given the following class definition, which command will cause the application to output the message *White-tailed*?

```
package forest;
public class Deer {
 public static void main(String... deerParams) {
 System.out.print(deerParams[2]);
 }
}
```

- A.** `java forest.Deer deer 5 "White-tailed deer"`
  - B.** `java forest.Deer "White-tailed deer" deer 3`
  - C.** `java forest.Deer Red deer White-tailed deer`
  - D.** `java forest.Deer My "deer White-tailed"`
- 30.** Which of the following is a true statement?
- A.** The `java` command compiles a `.java` file into a `.class` file.
  - B.** The `javac` command compiles a `.java` file into a `.class` file.
  - C.** The `java` command compiles a `.class` file into a `.java` file.
  - D.** The `javac` command compiles a `.class` file into a `.java` file.

**31.** Which of the following statements about Java is true?

- A.** Java is a procedural programming language.
- B.** Java allows method overloading.
- C.** Java allows operator overloading.
- D.** Java allows direct access to objects in memory.

**32.** Given the following code, what values inserted in order into the blank lines, allow the code to compile?

```
_____ agent;
public _____ Banker {
 private static _____ getMaxWithdrawal() {
 return 10;
 }
}
```

- A.** import, class, null
- B.** import, interface, void
- C.** package, int, int
- D.** package, class, long

**33.** What is the output of the following application?

```
public class Airplane {
 static int start = 2;
 final int end;
 public Airplane(int x) {
 x = 4;
 end = x;
 }
 public void fly(int distance) {
 System.out.print(end-start+" ");
 System.out.print(distance);
 }
 public static void main(String... start) {
 new Airplane(10).fly(5);
 }
}
```

- A.** 2 5
- B.** 8 5
- C.** 6 5
- D.** The code does not compile.

34. What is one of the most important reasons that Java supports extending classes via inheritance?
- A. Inheritance requires that a class that extends another class be in the same package.
  - B. The program must spend extra time/resources at runtime jumping through multiple layers of inheritance to determine precise methods and variables.
  - C. Method signature changes in parent classes may break subclasses that use overloaded methods.
  - D. Developers minimize duplicate code in new classes by sharing code in a common parent class.
35. Which of the following is a valid code comment in Java?
- A. `//////// Walk my dog`
  - B. `#! Go team!`
  - C. `/ Process fails at runtime /`
  - D. None of the above
36. Which of the following method signatures is not a valid declaration of an entry point in a Java application?
- A. `public static void main(String... arguments)`
  - B. `public static void main(String arguments)`
  - C. `public static final void main(String[] arguments)`
  - D. `public static void main(String[] arguments)`
37. Given the file `Magnet.java` below, which of the marked lines can you independently insert the line `public String color;` into and still have the code compile?
- ```
// line a1
public class Magnet {
    // line a2
    public void attach() {
        // line a3
    }
    // line a4
}
```
- A. a1 and a3
 - B. a2 and a4
 - C. a2, a3, and a4
 - D. a1, a2, a3, and a4
38. What is required to define a valid Java class file?
- A. A class declaration
 - B. A package statement
 - C. At least one import statement
 - D. The public modifier