Exam 1Z0-851

Java Standard Edition 6 Programmer Certified Professional Exam

Section 7: Fundamentals

- *Given a code example and a scenario, write code that uses the appropriate access modifiers, package declarations, and import statements to interact with (through access or inheritance) the code in the example.*
- *Given an example of a class and a command-line, determine the expected runtime behavior.*
- Determine the effect upon object references and primitive values when they are passed into methods that perform assignments or other modifying operations on the parameters.
- Given a code example, recognize the point at which an object becomes eligible for garbage collection, determine what is and is not guaranteed by the garbage collection system, and recognize the behaviors of the Object.finalize() method.
- *Given the fully-qualified name of a class that is deployed inside and/or outside a JAR file, construct the appropriate directory structure for that class. Given a code example and a classpath, determine whether the classpath will allow the code to compile successfully.*
- Write code that correctly applies the appropriate operators including assignment operators (limited to: =, +=, -=), arithmetic operators (limited to: +, -, *, /, %, ++, --), relational operators (limited to: <, <=, >, >=, ==, !=), the instanceof operator, logical operators (limited to: &, |, ^, !, &&, ||), and the conditional operator (? :), to produce a desired result. Write code that determines the equality of two objects or two primitives.

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Question 1

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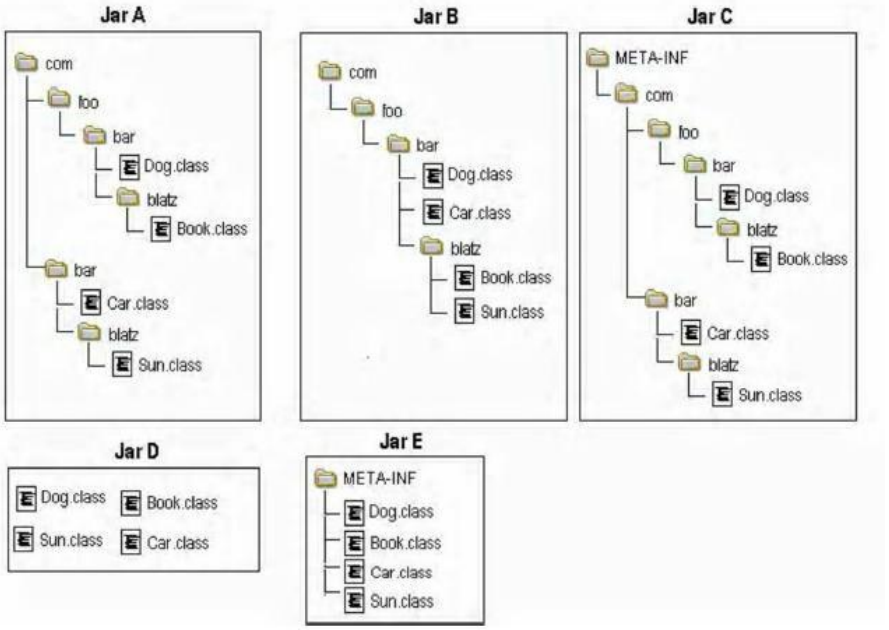
Given the following JARs and given the *fully-qualified class names*:

com.foo.bar.Dog

com.foo.bar.blatz.Book

com.bar.Car

com.bar.blatz.Sun



Which graph represents the correct directory structure for a JAR file from which those classes can be used by the compiler and JVM?

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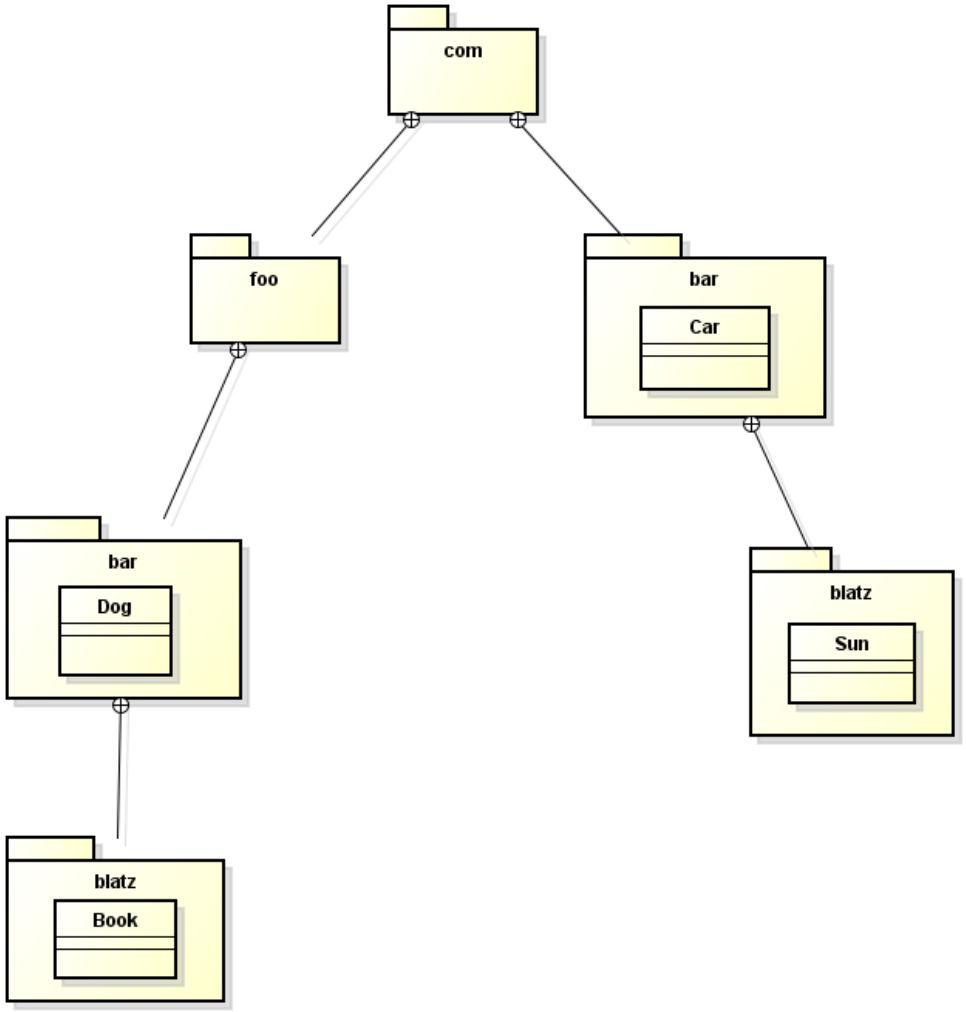

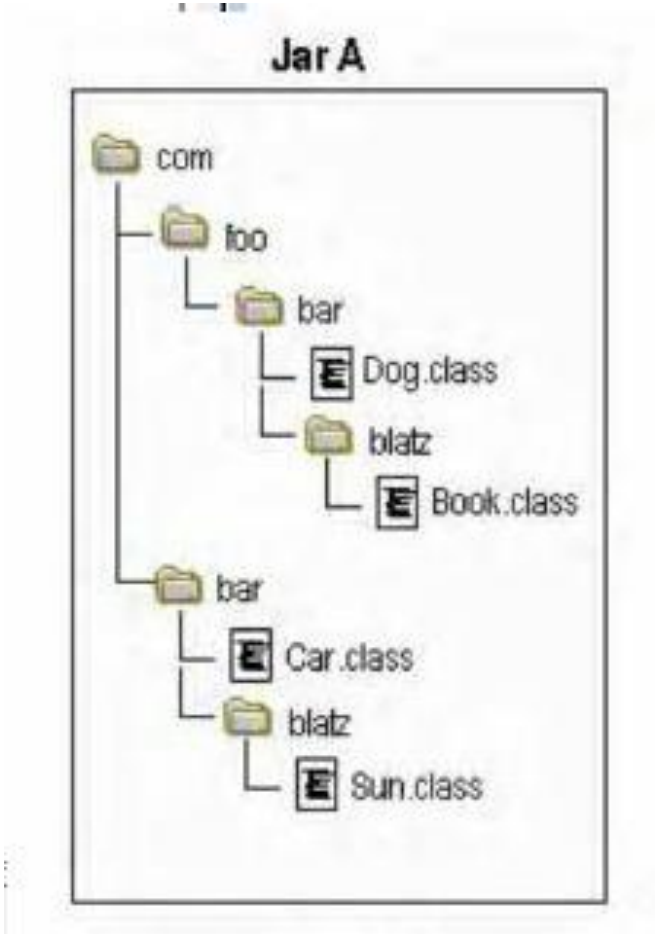

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Question 2

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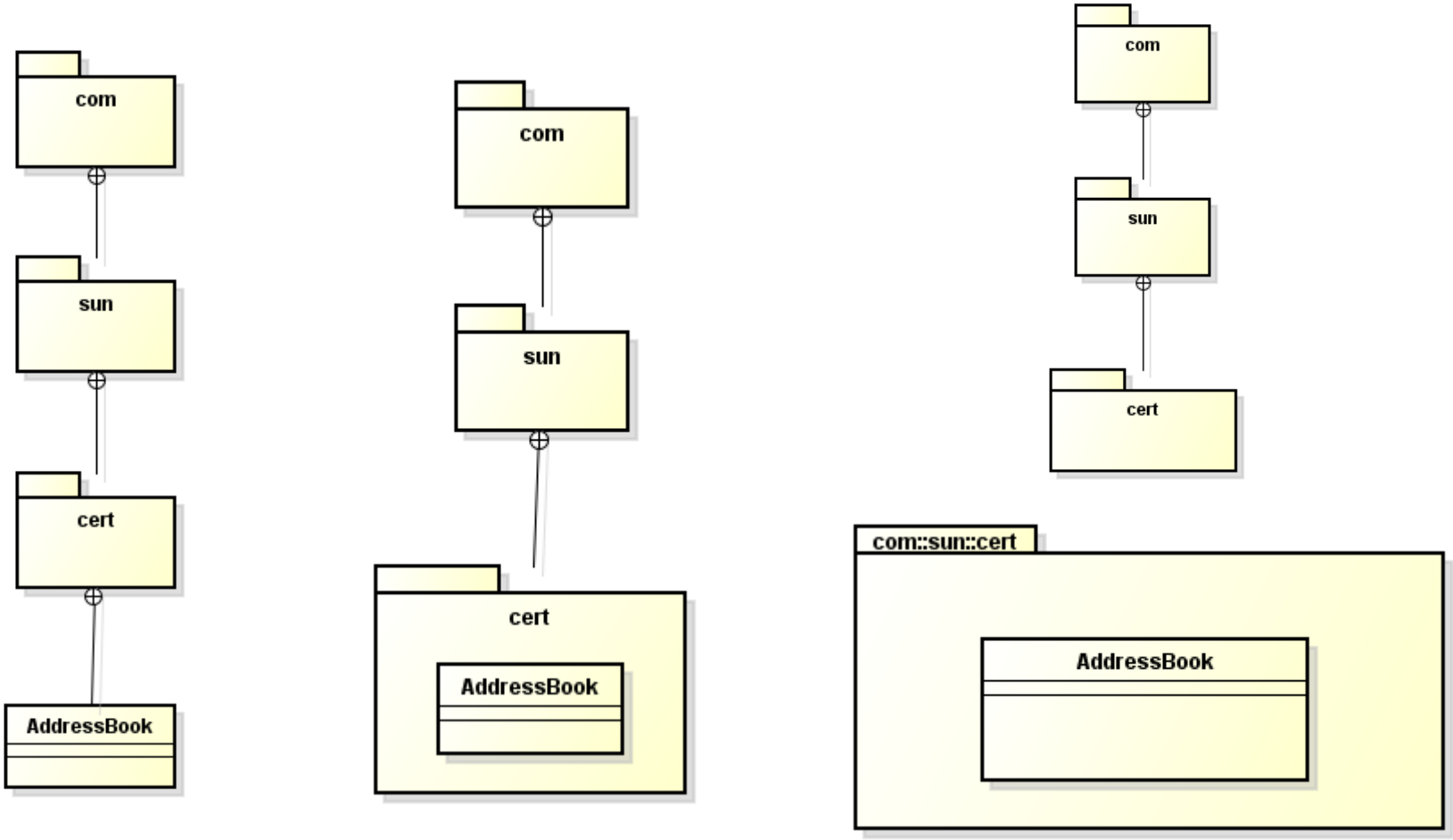

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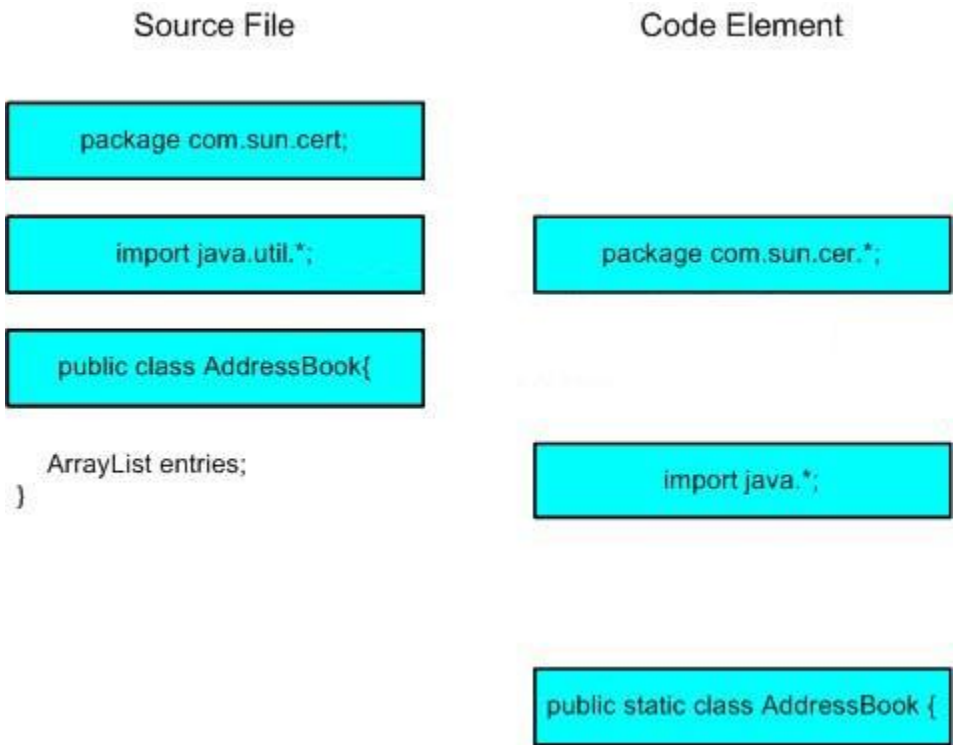
Place the code elements in order so that the resulting Java source file will compile correctly, resulting in a class called *com.sun.cert.AddressBook*



Section 7: Fundamentals

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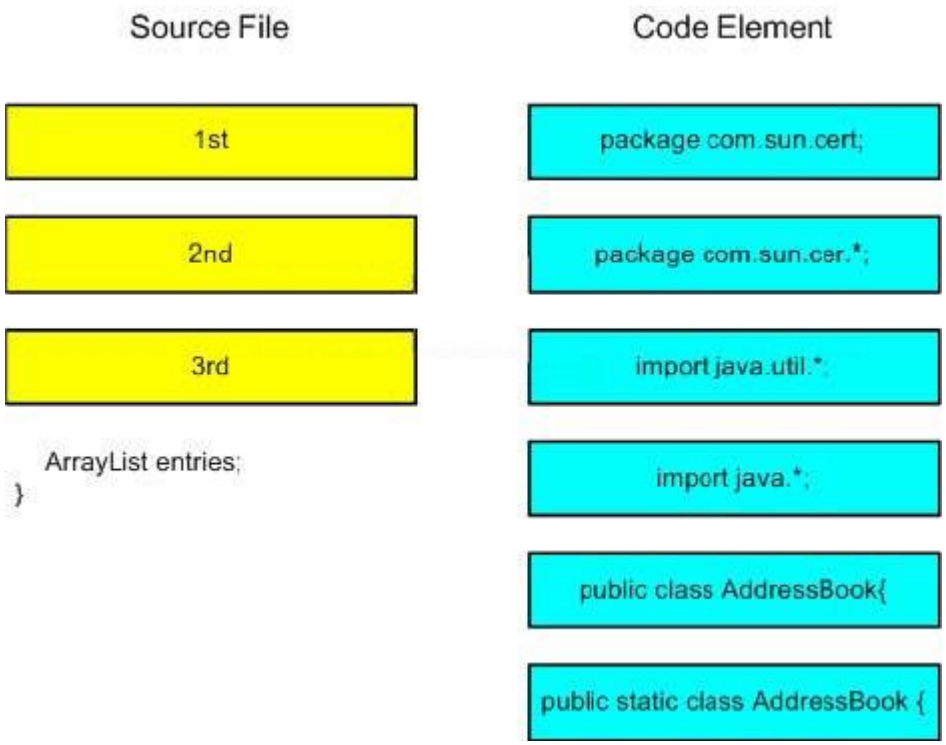

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Question 3

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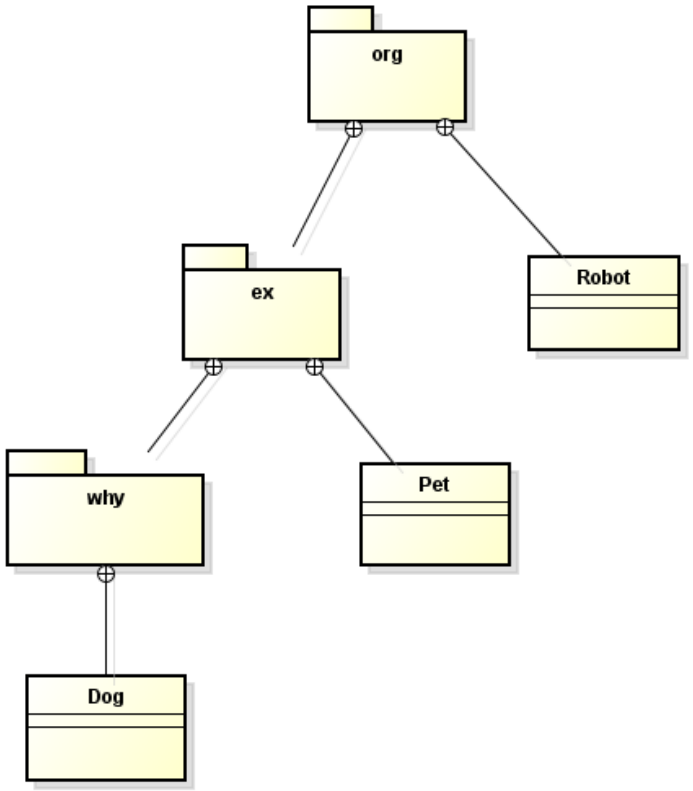
Given the following directory structure:

```
org
| -- Robot.class
|
| -- ex
     |-- Pet.class
     |
     |-- why
          |-- Dog.class
```



And the following source file:

```
class MyClass {
  Robot r;
  Pet p;
  Dog d;
}
```

Fully qualified name class:

org.Robot
org.ex.Pet
org.why.Dog

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Which statement(s) must be added for the source file to compile? (Choose all that apply.)

A. package org;
B. import org.*;
C. package org.*;
D. package org.ex;
E. import org.ex.*;
F. package org.ex.why;
G. package org.ex.why.Dog;

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Question 4

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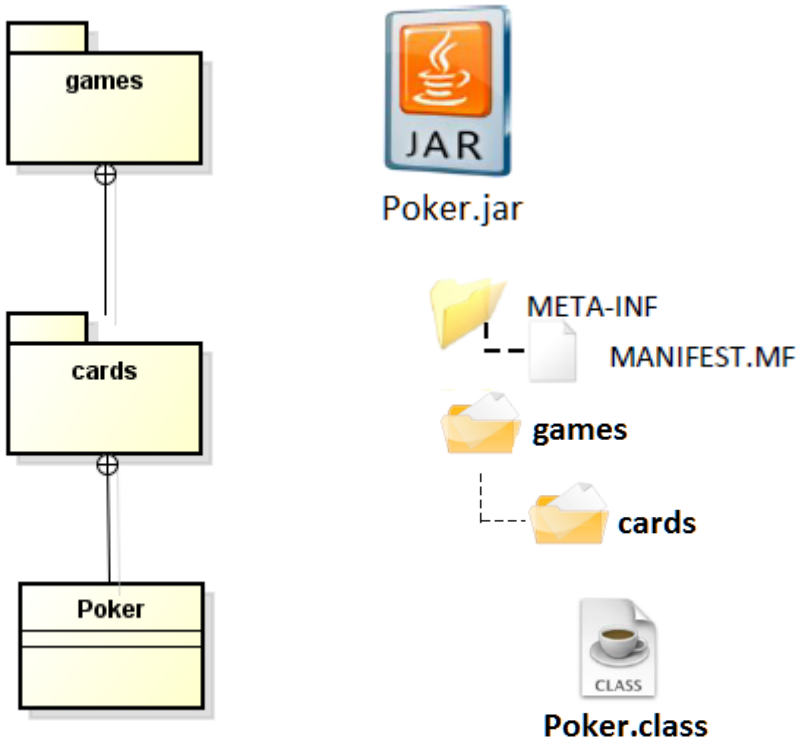
A class ***games.cards.Poker*** is correctly defined in the jar file ***Poker.jar***

A user wants to execute the main method of Poker on a UNIX system using the command:

> *java games.cards.Poker*



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What allows the user to do this?

A. Put Poker.jar in directory */stuff/java*, and set the CLASSPATH to include */stuff/java*

B. Put Poker.jar in directory */stuff/java*, and set the CLASSPATH to include */stuff/java/*.jar*

C. Put Poker.jar in directory /stuff/java, and set the CLASSPATH to include */stuff/java/Poker.jar*

D. Put Poker.jar in directory */stuff/java/games/cards*, and set the CLASSPATH to include */stuff/java*

E. Put Poker.jar in directory */stuff/java/games/cards*, and set the CLASSPATH to include */stuff/java/*.jar*

F. Put Poker.jar in directory */stuff/java/games/cards*, and set the CLASSPATH to include */stuff/java/Poker.jar*

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Question 5

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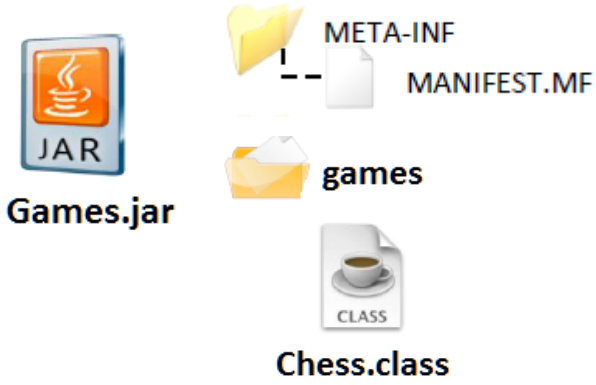
A UNIX user named Bob wants to replace his chess program with a new one, but he is not sure where the old one is installed. Bob is currently able to run a Java chess program starting from his home directory /home/bob using the command:

> java -classpath */test:/home/bob/downloads/* .jar games.Chess*

Bob's CLASSPATH is set (at login time) to:

/usr/lib:/home/bob/classes:/opt/java/lib:/opt/java/lib/ .jar*



Fully qualified name class:
games.Chess

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What is a possible location for the *Chess.class* file?

A. /test/Chess.class
B. /home/bob/Chess.class
C. /test/games/Chess.class
D. /usr/lib/games/Chess.class
E. /home/bob/games/Chess.class
F. inside jarfile /opt/java/lib/Games.jar (with a correct manifest)
G. inside jarfile /home/bob/downloads/Games.jar (with a correct manifest)

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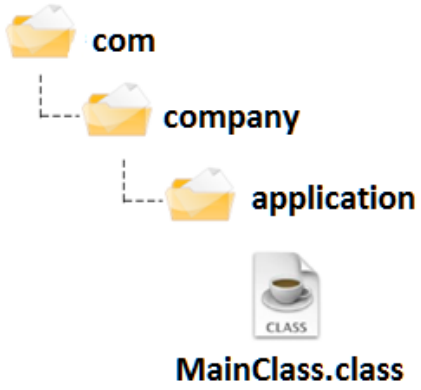
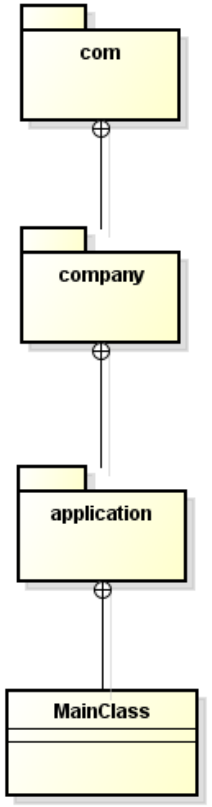
Question 6

Section 7: Fundamentals

Given:






```
1. package com.company.application;
2.
3.     public class MainClass {
4.         public static void main(String[] args) { }
5. }
```

And MainClass exists in the */apps/com/company/application* directory.

Assume the CLASSPATH environment variable is set to "." (current directory).

Fully qualified name class:
com.company.application.MainClass

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Which two java commands entered at the command line will run MainClass? (Choose two.)

A. java *MainClass* if run from the /apps directory
B. java *com.company.application.MainClass* if run from the /apps directory
C. java -classpath /apps *com.company.application.MainClass* if run from any directory
D. java -classpath . *MainClass* if run from the */apps/com/company/application* directory
E. java -classpath /apps/com/company/application:. *MainClass* if run from the */apps* directory
F. java *com.company.application.MainClass* if run from the */apps/com/company/application directory*

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Question 7

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If three versions of *MyClass.class* exist on a file system:

Version 1 is in */foo/bar*
Version 2 is in */foo/bar/baz*
Version 3 is in */foo/bar/baz/bing*

And the system's classpath includes:

/foo/bar/baz

And this command line is invoked from /foo

> java -classpath */foo/bar/baz/bing:/foo/bar MyClass*

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Which version will be used by javac?

A. /foo/MyClass.class
B. /foo/bar/MyClass.class
C. /foo/bar/baz/MyClass.class
D. /foo/bar/baz/bing/MyClass.class
E. The result is not predictable.

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Question 8

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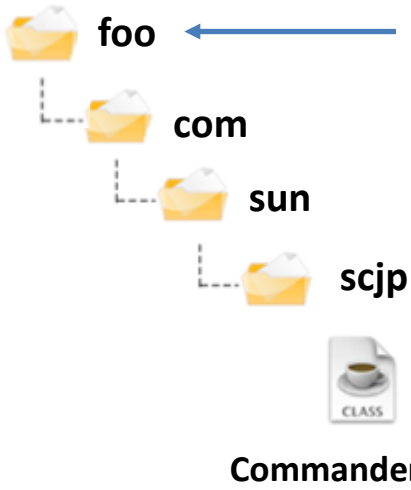
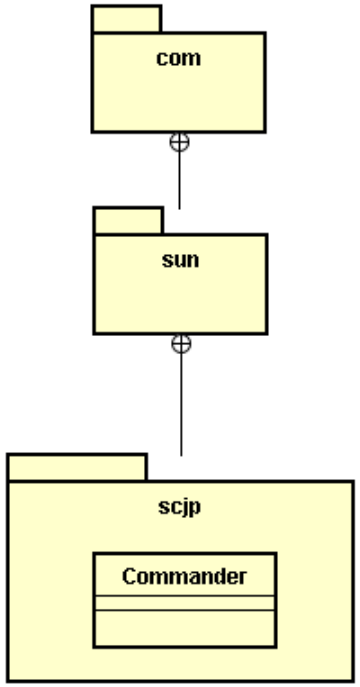
Given a correctly compiled class whose source code is:

```
1. package com.sun.sjcp;
2.
3. public class Commander {
4.     public static void main(String[] args) {
5.         // more code here
6.     }
7. }
```

Fully-qualified class name: **com.sun.scjp.Command**



CLASSPATH = .



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Which command line correctly runs Commander?

A. java Commander
B. java com.sun.sjcp.Commander
C. java com/sun/sjcp/Commander
D. java -cp com.sun.sjcp Commander
E. java -cp com/sun/sjcp Commander

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Question 9

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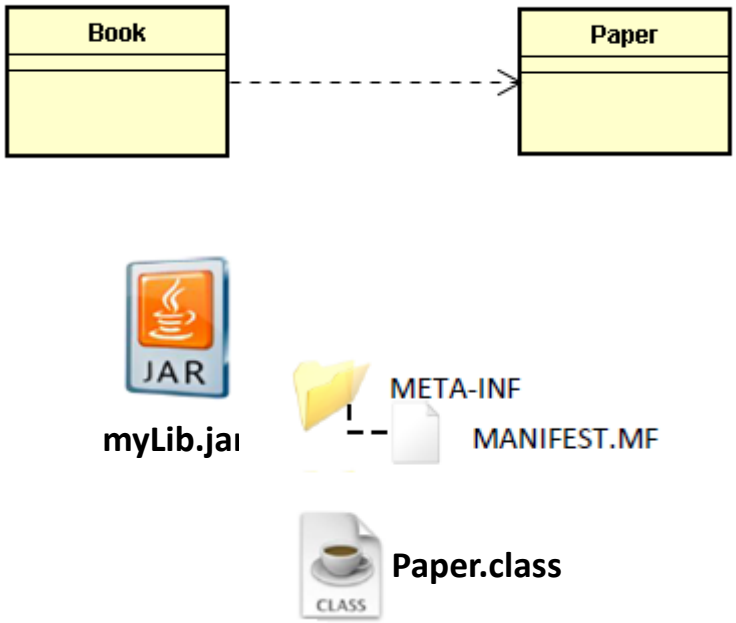
A developer is creating a class Book, that needs to access class Paper.

The Paper class is deployed in a JAR named myLib.jar.



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Which three, taken independently, will allow the developer to use the Paper class while compiling the Book class? (Choose three.)

A. The JAR file is located at $JAVA_HOME/jre/classes/myLib.jar
B. The JAR file is located at $JAVA_HOME/jre/lib/ext/myLib.jar
C. The JAR file is located at /foo/myLib.jar and a classpath environment variable is set that includes /foo/myLib.jar/Paper.class
D. The JAR file is located at /foo/myLib.jar and a classpath environment variable is set that includes /foo/myLib.jar
E. The JAR file is located at /foo/myLib.jar and the Book class is compiled using javac - cp /foo/myLib.jar/Paper Book.java
F. The JAR file is located at /foo/myLib.jar and the Book class is compiled using javac -d /foo/myLib.jar Book.java
G. The JAR file is located at /foo/myLib.jar and the Book class is compiled using javac - classpath /foo/myLib.jar Book.java

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Question 10

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Given the following directory structure:

And the following command line invocation:

javac -d classes source/Utils.java

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Assume the current directory is bigProject, what is the result?

A. If the compile is successful, Utils.class is added to the source directory.
B. The compiler returns an invalid flag error.
C. If the compile is successful, Utils.class is added to the classes directory.
D. If the compile is successful, Utils.class is added to the bigProject directory.

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Question 11

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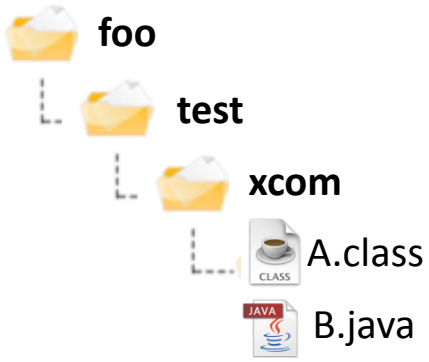
Given the default classpath:

CLASSPATH = /foo

And this directory structure:



And these two files:

```
package xcom;
public class A { }
```

```
package xcom;
public class B {
 A a;
}
```

Fully-qualified class name: **xcom.A**
xcom.B

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Which allows B.java to compile? (Choose all that apply.)

A. Set the current directory to xcom then invoke
javac B.java

B. Set the current directory to xcom then invoke
javac -classpath . B.java

C. Set the current directory to test then invoke
javac -classpath . xcom/B.java

D. Set the current directory to test then invoke
javac -classpath xcom B.java

E. Set the current directory to test then invoke
javac -classpath xcom:. B.java

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Question 12

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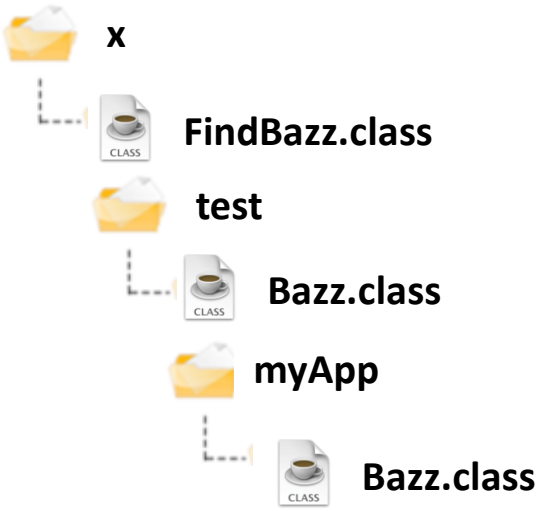
Given the following directory structure:



And given the contents of the related .java files:

```
1. public class FindBaz {
2.         public static void main(String[] args) { new Baz(); }
3. }
```

In the test directory:

```
1. public class Baz {
2.         static { System.out.println("test/Baz"); }
3. }
```

In the myApp directory:

```
1. public class Baz {
2.         static { System.out.println("myApp/Baz"); }
3. }
```

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If the current directory is x, which invocations will produce the output "test/Baz"? (Choose all that apply.)

A. java FindBaz
B. java -classpath test FindBaz
C. java -classpath .:test FindBaz
D. java -classpath .:test/myApp FindBaz
E. java -classpath test:test/myApp FindBaz
F. java -classpath test:test/myApp:. FindBaz
G. java -classpath test/myApp:test:. FindBaz

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Question 13

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Given the following directory structure:

And given the contents of GetJar.java and Foo.java:

```
3. public class GetJar {
4.      public static void main(String[] args) {
5.            System.out.println(myApp.Foo.d);
6.      }
7. }
```

```
3. package myApp;
4. public class Foo { public static int d = 8; }
```

The current directory is "test", and myApp/Foo.class is placed in a JAR file called MyJar.jar located in test

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Which set(s) of commands will compile GetJar.java and produce the output 8? (Choose all that apply.)

A. javac -classpath MyJar.jar GetJar.java
java -classpath MyJar.jar:. GetJar

B. javac MyJar.jar GetJar.java
java GetJar

C. javac -classpath MyJar.jar GetJar.java
java -classpath MyJar.jar GetJar

D. javac MyJar.jar GetJar.java
java -classpath MyJar.jar GetJar

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Question 14

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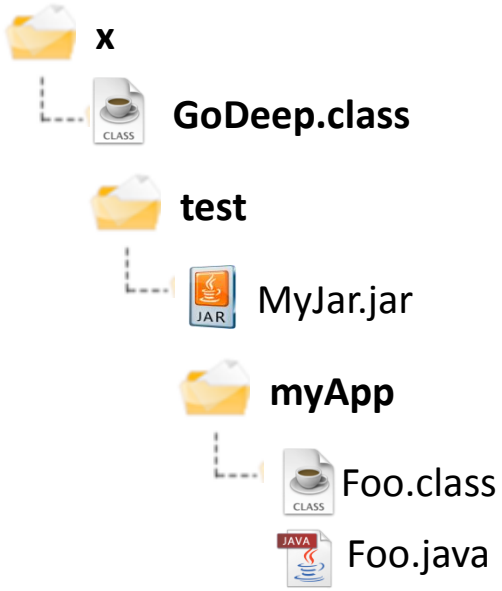
Given the following directory structure:



And given the contents of GoDeep.java and Foo.java:

```
3. public class GoDeep {
4.     public static void main(String[] args) {
5.         System.out.println(myApp.Foo.d);
6.     }
7. }
3. package myApp;
4. public class Foo { public static int d = 8; }
```

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If the current directory is x, which commands will successfully execute GoDeep.class and produce the output 8? (Choose all that apply.)

A. java GoDeep
B. java -classpath . GoDeep
C. java -classpath test/MyJar.jar GoDeep
D. java GoDeep -classpath test/MyJar.jar
E. java GoDeep -classpath test/MyJar.jar:.
F. java -classpath .:test/MyJar.jar GoDeep
G. java -classpath test/MyJar.jar:. GoDeep