



Oracle

Exam 1z0-851

Java Standard Edition 6 Programmer Certified Professional Exam

Version: 6.3

[Total Questions: 290]

Topic 1, Volume A

Question No : 1 - (Topic 1)

Given a pre-generics implementation of a method:

```
11. public static int sum(List list) {  
12.     int sum = 0;  
13.     for ( Iterator iter = list.iterator(); iter.hasNext(); ) {  
14.         int i = ((Integer)iter.next()).intValue();  
15.         sum += i;  
16.     }  
17.     return sum;  
18. }
```

What three changes allow the class to be used with generics and avoid an unchecked warning? (Choose three.)

- A. Remove line 14.
- B. Replace line 14 with "int i = iter.next();".
- C. Replace line 13 with "for (int i : intList) {".
- D. Replace line 13 with "for (Iterator iter : intList) {".
- E. Replace the method declaration with "sum(List<int> intList)".
- F. Replace the method declaration with "sum(List<Integer> intList)".

Answer: A,C,F

Question No : 2 - (Topic 1)

A programmer has an algorithm that requires a java.util.List that provides an efficient implementation of add(0, object), but does NOT need to support quick random access. What supports these requirements?

- A. java.util.Queue

- B. java.util.ArrayList
- C. java.util.LinearList
- D. java.util.LinkedList

Answer: D

Question No : 3 - (Topic 1)

Given:

- 11. // insert code here
- 12. private N min, max;
- 13. public N getMin() { return min; }
- 14. public N getMax() { return max; }
- 15. public void add(N added) {
- 16. if (min == null || added.doubleValue() < min.doubleValue())
- 17. min = added;
- 18. if (max == null || added.doubleValue() > max.doubleValue())
- 19. max = added;
- 20. }
- 21. }

Which two, inserted at line 11, will allow the code to compile? (Choose two.)

- A. public class MinMax<?> {
- B. public class MinMax<? extends Number> {
- C. public class MinMax<N extends Object> {
- D. public class MinMax<N extends Number> {
- E. public class MinMax<? extends Object> {
- F. public class MinMax<N extends Integer> {

Answer: D,F

Question No : 4 - (Topic 1)

Given:

```
12. import java.util.*;
13. public class Explorer2 {
14.     public static void main(String[] args) {
15.         TreeSet<Integer> s = new TreeSet<Integer>();
16.         TreeSet<Integer> subs = new TreeSet<Integer>();
17.         for(int i = 606; i < 613; i++)
18.             if(i%2 == 0) s.add(i);
19.         subs = (TreeSet)s.subSet(608, true, 611, true);
20.         s.add(629);
21.         System.out.println(s + " " + subs);
22.     }
23. }
```

What is the result?

- A. Compilation fails.
- B. An exception is thrown at runtime.
- C. [608, 610, 612, 629] [608, 610]
- D. [608, 610, 612, 629] [608, 610, 629]
- E. [606, 608, 610, 612, 629] [608, 610]
- F. [606, 608, 610, 612, 629] [608, 610, 629]

Answer: E

Question No : 5 - (Topic 1)

Given:

```
1. public class Score implements Comparable<Score> {
```

```
2. private int wins, losses;
3. public Score(int w, int l) { wins = w; losses = l; }
4. public int getWins() { return wins; }
5. public int getLosses() { return losses; }
6. public String toString() {
7. return "<" + wins + "," + losses + ">";
8. }
9. // insert code here
10. }
```

Which method will complete this class?

- A. `public int compareTo(Object o){/*more code here*/}`
- B. `public int compareTo(Score other){/*more code here*/}`
- C. `public int compare(Score s1,Score s2){/*more code here*/}`
- D. `public int compare(Object o1,Object o2){/*more code here*/}`

Answer: B

Question No : 6 - (Topic 1)

Given:

```
11. public class Person {
12. private name;
13. public Person(String name) {
14. this.name = name;
15. }
16. public int hashCode() {
17. return 420;
18. }
```

19. }

Which statement is true?

- A. The time to find the value from HashMap with a Person key depends on the size of the map.
- B. Deleting a Person key from a HashMap will delete all map entries for all keys of type Person.
- C. Inserting a second Person object into a HashSet will cause the first Person object to be removed as a duplicate.
- D. The time to determine whether a Person object is contained in a HashSet is constant and does NOT depend on the size of the map.

Answer: A

Question No : 7 - (Topic 1)

Given:

```
5. import java.util.*;
6. public class SortOf {
7.     public static void main(String[] args) {
8.         ArrayList<Integer> a = new ArrayList<Integer>();
9.         a.add(1); a.add(5); a.add(3);
11.        Collections.sort(a);
12.        a.add(2);
13.        Collections.reverse(a);
14.        System.out.println(a);
15.    }
16. }
```

What is the result?

- A. [1, 2, 3, 5]
- B. [2, 1, 3, 5]

- C. [2, 5, 3, 1]
- D. [5, 3, 2, 1]
- E. [1, 3, 5, 2]
- F. Compilation fails.
- G. An exception is thrown at runtime.

Answer: C

Question No : 8 - (Topic 1)

Given

- 11. public interface Status {
 - 12. /* insert code here */ int MY_VALUE = 10;
 - 13. }
- Which three are valid on line

12?

(Choose three.)

- A. final
- B. static
- C. native
- D. public
- E. private
- F. abstract
- G. protected

Answer: A,B,D

Question No : 9 - (Topic 1)

Given:

- 5. class Atom {
- 6. Atom() { System.out.print("atom "); }
- 7. }

```
8. class Rock extends Atom {  
9.   Rock(String type) { System.out.print(type); }  
10. }  
11. public class Mountain extends Rock {  
12.   Mountain() {  
13.     super("granite ");  
14.     new Rock("granite ");  
15.   }  
16.   public static void main(String[] a) { new Mountain(); }  
17. }
```

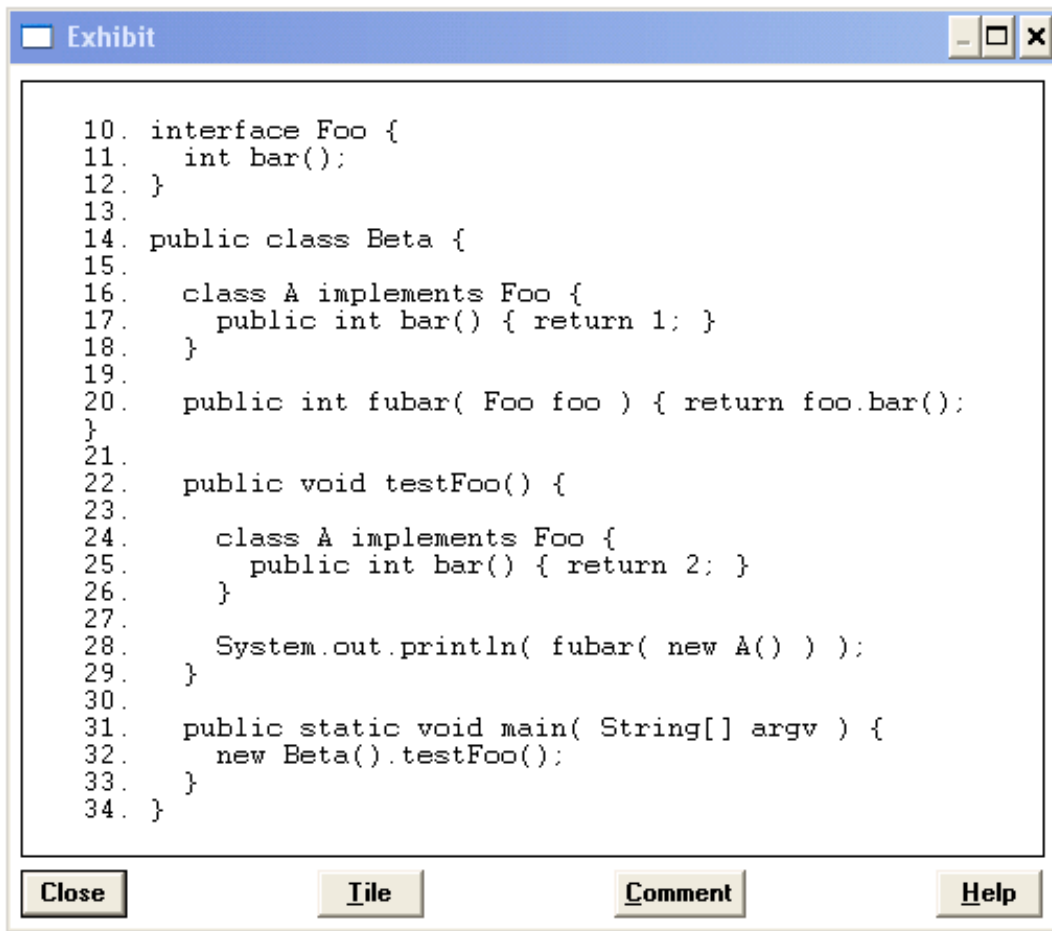
What is the result?

- A. Compilation fails.
- B. atom granite
- C. granite granite
- D. atom granite granite
- E. An exception is thrown at runtime.
- F. atom granite atom granite

Answer: F

Question No : 10 - (Topic 1)

Click the Exhibit button. Which three statements are true? (Choose three.)



```
10. interface Foo {
11.     int bar();
12. }
13.
14. public class Beta {
15.
16.     class A implements Foo {
17.         public int bar() { return 1; }
18.     }
19.
20.     public int fubar( Foo foo ) { return foo.bar();
21.     }
22.
23.     public void testFoo() {
24.         class A implements Foo {
25.             public int bar() { return 2; }
26.         }
27.
28.         System.out.println( fubar( new A() ) );
29.     }
30.
31.     public static void main( String[] argv ) {
32.         new Beta().testFoo();
33.     }
34. }
```

- A. Compilation fails.
- B. The code compiles and the output is 2.
- C. If lines 16, 17 and 18 were removed, compilation would fail.
- D. If lines 24, 25 and 26 were removed, compilation would fail.
- E. If lines 16, 17 and 18 were removed, the code would compile and the output would be 2.
- F. If lines 24, 25 and 26 were removed, the code would compile and the output would be 1.

Answer: B,E,F

Question No : 11 - (Topic 1)

Given:

- 10. class Line {
- 11. public class Point { public int x,y;}
- 12. public Point getPoint() { return new Point(); }

```
13. }  
14. class Triangle {  
15. public Triangle() {  
16. // insert code here  
17. }  
18. }
```

Which code, inserted at line 16, correctly retrieves a local instance of a Point object?

- A. Point p = Line.getPoint();
- B. Line.Point p = Line.getPoint();
- C. Point p = (new Line()).getPoint();
- D. Line.Point p = (new Line()).getPoint();

Answer: D

Question No : 12 - (Topic 1)

Given:

```
11. class Alpha {  
12. public void foo() { System.out.print("Afoo "); }  
13. }  
14. public class Beta extends Alpha {  
15. public void foo() { System.out.print("Bfoo "); }  
16. public static void main(String[] args) {  
17. Alpha a = new Beta();  
18. Beta b = (Beta)a;  
19. a.foo();  
20. b.foo();  
21. }
```

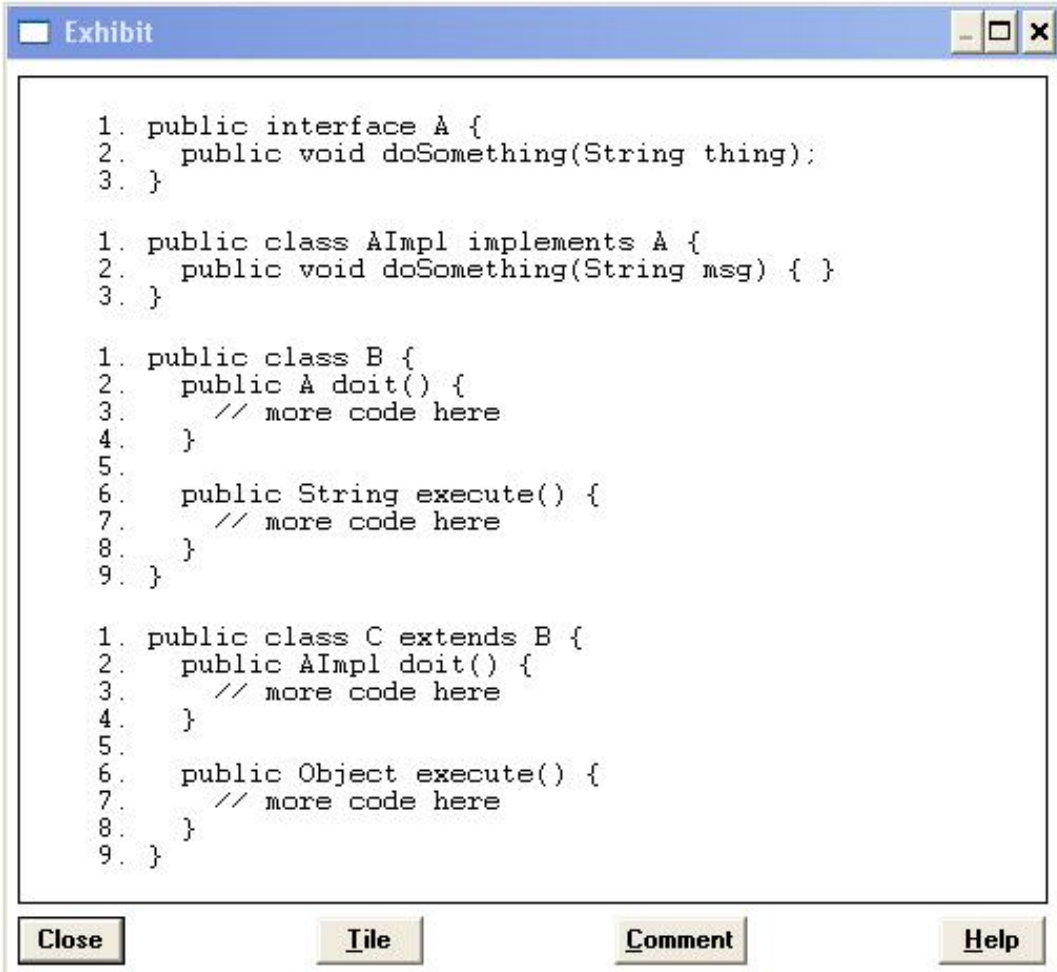
22. }

What is the result?

- A. Afoo Afoo
- B. Afoo Bfoo
- C. Bfoo Afoo
- D. Bfoo Bfoo
- E. Compilation fails.
- F. An exception is thrown at runtime.

Answer: D**Question No : 13 - (Topic 1)**

Click the Exhibit button. Which statement is true about the classes and interfaces in the exhibit?



```
1. public interface A {
2.     public void doSomething(String thing);
3. }

1. public class AImpl implements A {
2.     public void doSomething(String msg) { }
3. }

1. public class B {
2.     public A doit() {
3.         // more code here
4.     }
5.
6.     public String execute() {
7.         // more code here
8.     }
9. }

1. public class C extends B {
2.     public AImpl doit() {
3.         // more code here
4.     }
5.
6.     public Object execute() {
7.         // more code here
8.     }
9. }
```

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- A. Compilation will succeed for all classes and interfaces.
- B. Compilation of class C will fail because of an error in line 2.
- C. Compilation of class C will fail because of an error in line 6.
- D. Compilation of class AImpl will fail because of an error in line 2.

Answer: C

Question No : 14 - (Topic 1)

Which two code fragments correctly create and initialize a static array of int elements?
(Choose two.)

- A. `static final int[] a = { 100,200 };`
- B. `static final int[] a;`
`static { a=new int[2]; a[0]=100; a[1]=200; }`
- C. `static final int[] a = new int[2]{ 100,200 };`
- D. `static final int[] a;`
`static void init() { a = new int[3]; a[0]=100; a[1]=200; }`

Answer: A,B

Question No : 15 - (Topic 1)

Given:

- 10. `interface Foo { int bar(); }`
- 11. `public class Sprite {`
- 12. `public int fubar(Foo foo) { return foo.bar(); }`
- 13. `public void testFoo() {`
- 14. `fubar(`
- 15. `// insert code here`
- 16. `);`
- 17. `}`

18. }

Which code, inserted at line 15, allows the class Sprite to compile?

- A. Foo { public int bar() { return 1; } }
- B. new Foo { public int bar() { return 1; } }
- C. new Foo() { public int bar() { return 1; } }
- D. new class Foo { public int bar() { return 1; } }

Answer: C

Question No : 16 - (Topic 1)

Given:

1. class Alligator {
2. public static void main(String[] args) {
3. int [][]x[] = {{1,2}, {3,4,5}, {6,7,8,9}};
4. int [][]y = x;
5. System.out.println(y[2][1]);
6. }
7. }

What is the result?

- A. 2
- B. 3
- C. 4
- D. 6
- E. 7
- F. Compilation fails.

Answer: E

Question No : 17 - (Topic 1)

Given:

```
22. StringBuilder sb1 = new StringBuilder("123");
```

```
23. String s1 = "123";
```

```
24. // insert code here
```

```
25. System.out.println(sb1 + " " + s1);
```

Which code fragment, inserted at line 24, outputs "123abc 123abc"?

- A. sb1.append("abc"); s1.append("abc");
- B. sb1.append("abc"); s1.concat("abc");
- C. sb1.concat("abc"); s1.append("abc");
- D. sb1.concat("abc"); s1.concat("abc");
- E. sb1.append("abc"); s1 = s1.concat("abc");
- F. sb1.concat("abc"); s1 = s1.concat("abc");
- G. sb1.append("abc"); s1 = s1 + s1.concat("abc");
- H. sb1.concat("abc"); s1 = s1 + s1.concat("abc");

Answer: E

Question No : 18 - (Topic 1)

Given that the current directory is empty, and that the user has read and write permissions, and the following:

```
11. import java.io.*;
```

```
12. public class DOS {
```

```
13.     public static void main(String[] args) {
```

```
14.         File dir = new File("dir");
```

```
15.         dir.mkdir();
```

```
16.         File f1 = new File(dir, "f1.txt");
```

```
17.         try {
```

```
18.             f1.createNewFile();
```

```
19.         } catch (IOException e) { ; }
```

```
20. File newDir = new File("newDir");
21. dir.renameTo(newDir);
22. }
23. }
```

Which statement is true?

- A. Compilation fails.
- B. The file system has a new empty directory named dir.
- C. The file system has a new empty directory named newDir.
- D. The file system has a directory named dir, containing a file f1.txt.
- E. The file system has a directory named newDir, containing a file f1.txt.

Answer: E

Question No : 19 - (Topic 1)

Given:

```
11. class Converter {
12.     public static void main(String[] args) {
13.         Integer i = args[0];
14.         int j = 12;
15.         System.out.println("It is " + (j==i) + " that j==i.");
16.     }
17. }
```

What is the result when the programmer attempts to compile the code and run it with the command `java Converter 12`?

- A. It is true that `j==i`.
- B. It is false that `j==i`.
- C. An exception is thrown at runtime.
- D. Compilation fails because of an error in line 13.

Answer: D

Question No : 20 - (Topic 1)

Given:

11. String test = "Test A. Test B. Test C.";

12. // insert code here

13. String[] result = test.split(regex);

Which regular expression, inserted at line 12, correctly splits test into "Test A", "Test B", and "Test C"?

A. String regex = "";

B. String regex = " ";

C. String regex = ". *";

D. String regex = "\\s";

E. String regex = "\\s.*";

F. String regex = "\\w[\\.]+";

Answer: E

Question No : 21 - (Topic 1)

Given:

5. import java.util.Date;

6. import java.text.DateFormat;

21. DateFormat df;

22. Date date = new Date();

23. // insert code here

24. String s = df.format(date);

Which code fragment, inserted at line 23, allows the code to compile?

- A. `df = new DateFormat();`
- B. `df = Date.getFormat();`
- C. `df = date.getFormat();`
- D. `df = DateFormat.getFormat();`
- E. `df = DateFormat.getInstance();`

Answer: E

Question No : 22 - (Topic 1)

Given a class Repetition:

1. `package utils;`
- 2.
3. `public class Repetition {`
4. `public static String twice(String s) { return s + s; }`
5. `}` and given another class Demo: 1. `// insert code here`
- 2.
3. `public class Demo {`
4. `public static void main(String[] args) {`
5. `System.out.println(twice("pizza"));`
6. `}`
7. `}`

Which code should be inserted at line 1 of Demo.java to compile and run Demo to print "pizzapizza"?

- A. `import utils.*;`
- B. `static import utils.*;`
- C. `import utils.Repetition.*;`
- D. `static import utils.Repetition.*;`
- E. `import utils.Repetition.twice();`
- F. `import static utils.Repetition.twice;`
- G. `static import utils.Repetition.twice;`

Answer: F

Question No : 23 - (Topic 1)

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` 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)

Answer: C

Question No : 24 - (Topic 1)

Given:

3. interface Animal { void makeNoise(); }
4. class Horse implements Animal {
5. Long weight = 1200L;
6. public void makeNoise() { System.out.println("whinny"); }
7. }
8. public class Icelandic extends Horse {
9. public void makeNoise() { System.out.println("vinny"); }
10. public static void main(String[] args) {

```
11. Icelandic i1 = new Icelandic();
12. Icelandic i2 = new Icelandic();
13. Icelandic i3 = new Icelandic();
14. i3 = i1; i1 = i2; i2 = null; i3 = i1;
15. }
16. }
```

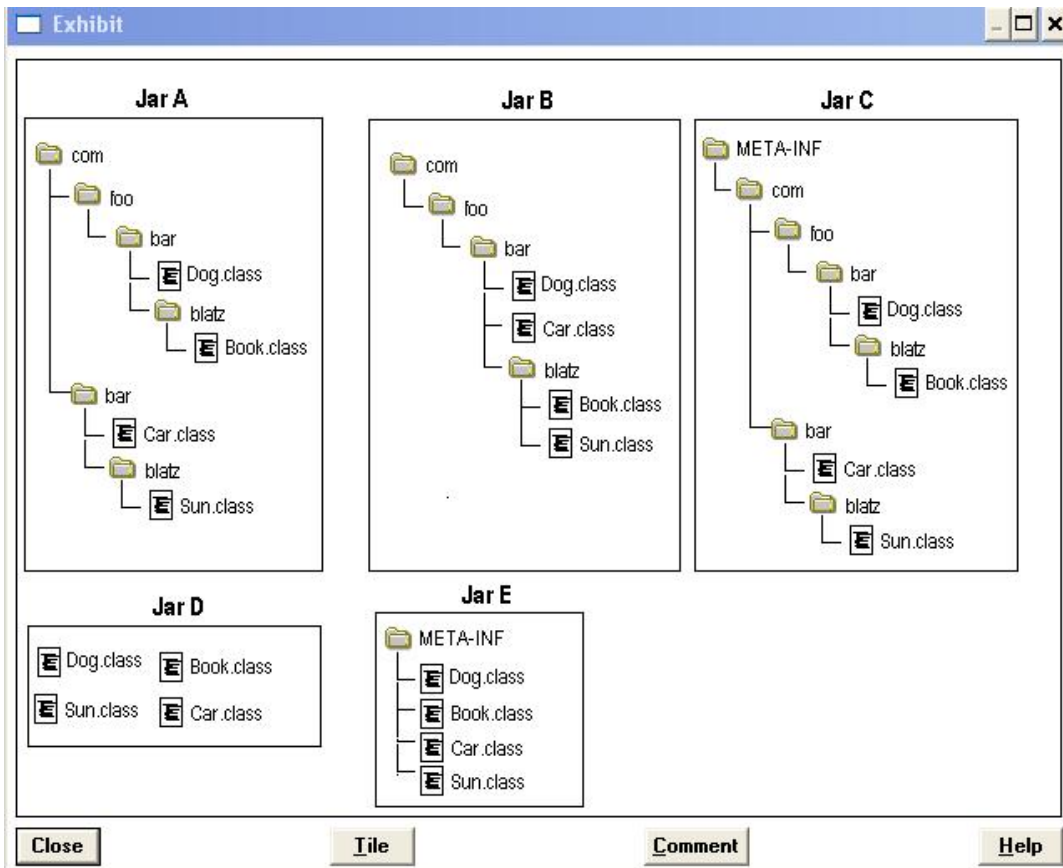
When line 15 is reached, how many objects are eligible for the garbage collector?

- A. 0
- B. 1
- C. 2
- D. 3
- E. 4
- F. 6

Answer: E

Question No : 25 - (Topic 1)

Click the Exhibit button. 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?



- A. Jar A
- B. Jar B
- C. Jar C
- D. Jar D
- E. Jar E

Answer: A

Question No : 26 - (Topic 1)

Given classes defined in two different files:

1. package util;
 2. public class BitUtils {
 3. private static void process(byte[] b) {}
 4. }
1. package app; 2

```
. public class SomeApp {  
3. public static void main(String[] args) {  
4. byte[] bytes = new byte[256];  
5. // insert code here  
6. }  
7. }
```

What is required at line 5 in class SomeApp to use the process method of BitUtils?

- A. process(bytes);
- B. BitUtils.process(bytes);
- C. app.BitUtils.process(bytes);
- D. util.BitUtils.process(bytes);
- E. import util.BitUtils.*; process(bytes);
- F. SomeApp cannot use the process method in BitUtils.

Answer: F

Question No : 27 - (Topic 1)

Given:

```
11. public class ItemTest {  
12. private final int id;  
13. public ItemTest(int id) { this.id = id; }  
14. public void updateId(int newId) { id = newId; }  
15.  
16. public static void main(String[] args) {  
17. ItemTest fa = new ItemTest(42);  
18. fa.updateId(69);  
19. System.out.println(fa.id);  
20. }
```

21. }

What is the result?

- A. Compilation fails.
- B. An exception is thrown at runtime.
- C. The attribute id in the ItemTest object remains unchanged.
- D. The attribute id in the ItemTest object is modified to the new value.
- E. A new ItemTest object is created with the preferred value in the id attribute.

Answer: A

Question No : 28 - (Topic 1)

Given:

```
13. public class Pass {  
14.     public static void main(String [] args) {  
15.         int x = 5;  
16.         Pass p = new Pass();  
17.         p.doStuff(x);  
18.         System.out.print(" main x = " + x);  
19.     }  
20.  
21.     void doStuff(int x) {  
22.         System.out.print(" doStuff x = " + x++);  
23.     }  
24. }
```

What is the result?

- A. Compilation fails.
- B. An exception is thrown at runtime.
- C. doStuff x = 6 main x = 6

- D. doStuff x = 5 main x = 5
- E. doStuff x = 5 main x = 6
- F. doStuff x = 6 main x = 5

Answer: D

Question No : 29 - (Topic 1)

Given:

1. public class GC {
2. private Object o;
3. private void doSomethingElse(Object obj) { o = obj; }
4. public void doSomething() {
5. Object o = new Object();
6. doSomethingElse(o);
7. o = new Object();
8. doSomethingElse(null);
9. o = null;
10. }
11. }

When the doSomething method is called, after which line does the Object created in line 5 become available for garbage collection?

- A. Line 5
- B. Line 6
- C. Line 7
- D. Line 8
- E. Line 9
- F. Line 10

Answer: D

Question No : 30 - (Topic 1)

Given:

11. public static void test(String str) {
12. int check = 4;
13. if (check = str.length()) {
14. System.out.print(str.charAt(check -= 1) + ", ");
15. } else {
16. System.out.print(str.charAt(0) + ", ");
17. }
18. } and the invocation:
21. test("four");
22. test("tee");
23. test("to");

What is the result?

- A. r, t, t,
- B. r, e, o,
- C. Compilation fails.
- D. An exception is thrown at runtime.

Answer: C

Question No : 31 - (Topic 1)

Given:

1. interface A { public void aMethod(); }
2. interface B { public void bMethod(); }


```
3. interface C extends A,B { public void cMethod(); }
4. class D implements B {
5. public void bMethod(){}
6. }
7. class E extends D implements C {
8. public void aMethod(){}
9. public void bMethod(){}
10. public void cMethod(){}
11. }
```

What is the result?

- A. Compilation fails because of an error in line 3.
- B. Compilation fails because of an error in line 7.
- C. Compilation fails because of an error in line 9.
- D. If you define `D e = new E()`, then `e.bMethod()` invokes the version of `bMethod()` defined in Line 5.
- E. If you define `D e = (D)(new E())`, then `e.bMethod()` invokes the version of `bMethod()` defined in Line 5.
- F. If you define `D e = (D)(new E())`, then `e.bMethod()` invokes the version of `bMethod()` defined in Line 9.

Answer: F

Question No : 32 - (Topic 1)

Given that: Gadget has-a Sprocket and Gadget has-a Spring and Gadget is-a Widget and Widget has-a Sprocket Which two code fragments represent these relationships? (Choose two.)

- A.

```
class Widget { Sprocket s; }
class Gadget extends Widget { Spring s; }
```
- B.

```
class Widget { }
class Gadget extends Widget { Spring s1; Sprocket s2; }
```
- C.

```
class Widget { Sprocket s1; Spring s2; }
class Gadget extends Widget { }
```

D. class Gadget { Spring s; }
class Widget extends Gadget{ Sprocket s; }
E. class Gadget { }
class Widget extends Gadget{ Sprocket s1; Spring s2; }
F. class Gadget { Spring s1; Sprocket s2; }
class Widget extends Gadget{ }

Answer: A,C

Question No : 33 - (Topic 1)

A company that makes Computer Assisted Design (CAD) software has, within its application, some utility classes that are used to perform 3D rendering tasks. The company's chief scientist has just improved the performance of one of the utility classes' key rendering algorithms, and has assigned a programmer to replace the old algorithm with the new algorithm. When the programmer begins researching the utility classes, she is happy to discover that the algorithm to be replaced exists in only one class. The programmer reviews that class's API, and replaces the old algorithm with the new algorithm, being careful that her changes adhere strictly to the class's API. Once testing has begun, the programmer discovers that other classes that use the class she changed are no longer working properly. What design flaw is most likely the cause of these new bugs?

- A. Inheritance
- B. Tight coupling
- C. Low cohesion
- D. High cohesion
- E. Loose coupling
- F. Object immutability

Answer: B

Question No : 34 - (Topic 1)

Which Man class properly represents the relationship "Man has a best friend who is a Dog"?

- A. class Man extends Dog { }

- B. class Man implements Dog { }
- C. class Man { private BestFriend dog; }
- D. class Man { private Dog bestFriend; }
- E. class Man { private Dog<bestFriend>; }
- F. class Man { private BestFriend<dog>; }

Answer: D

Question No : 35 - (Topic 1)

Given:

- 31. class Foo {
- 32. public int a = 3;
- 33. public void addFive() { a += 5; System.out.print("f "); }
- 34. }
- 35. class Bar extends Foo {
- 36. public int a = 8;
- 37. public void addFive() { this.a += 5; System.out.print("b "); }
- 38. } Invoked with: Foo f = new Bar(); f.addFive(); System.out.println(f.a);

What is the result?

- A. b 3
- B. b 8
- C. b 13
- D. f 3
- E. f 8
- F. f 13
- G. Compilation fails.
- H. An exception is thrown at runtime.

Answer: A

Question No : 36 - (Topic 1)

Given:

```
11. class Animal { public String noise() { return "peep"; } }
```

```
12. class Dog extends Animal {
```

```
13.   public String noise() { return "bark"; }
```

```
14. }
```

```
15. class Cat extends Animal {
```

```
16.   public String noise() { return "meow"; }
```

```
17. } ...
```

```
30. Animal animal = new Dog();
```

```
31. Cat cat = (Cat)animal;
```

```
32. System.out.println(cat.noise());
```

What is the result?

- A. peep
- B. bark
- C. meow
- D. Compilation fails.
- E. An exception is thrown at runtime.

Answer: E

Question No : 37 - (Topic 1)

Given:

```
1. class Super {
```

```
2.   private int a;
```

```
3.   protected Super(int a) { this.a = a; }
```

```
4. } ...
```

```
11. class Sub extends Super {
```

12. `public Sub(int a) { super(a); }`
13. `public Sub() { this.a = 5; }`
14. `}`

Which two, independently, will allow Sub to compile? (Choose two.)

A. Change line 2 to:

`public int a;`

B. Change line 2 to:

`protected int a;`

C. Change line 13 to:

`public Sub() { this(5); }`

D. Change line 13 to:

`public Sub() { super(5); }`

E. Change line 13 to:

`public Sub() { super(a); }`

Answer: C,D

Question No : 38 - (Topic 1)

Given:

1. `public class Base {`
2. `public static final String FOO = "foo";`
3. `public static void main(String[] args) {`
4. `Base b = new Base();`
5. `Sub s = new Sub();`
6. `System.out.print(Base.FOO);`
7. `System.out.print(Sub.FOO);`
8. `System.out.print(b.FOO);`
9. `System.out.print(s.FOO);`
10. `System.out.print(((Base)s).FOO);`

11. } }

12. class Sub extends Base {public static final String FOO="bar";}

What is the result?

- A. foofoofoofoofoo
- B. foobarfoobarbar
- C. foobarfoofoofoo
- D. foobarfoobarfoo
- E. barbarbarbarbar
- F. foofoofoobarbar
- G. foofoofoobarfoo

Answer: D

Question No : 39 - (Topic 1)

Given:

1. package geometry;
2. public class Hypotenuse {
3. public InnerTriangle it = new InnerTriangle();
4. class InnerTriangle {
5. public int base;
6. public int height;
7. }
8. }

Which statement is true about the class of an object that can reference the variable base?

- A. It can be any class.
- B. No class has access to base.
- C. The class must belong to the geometry package.
- D. The class must be a subclass of the class Hypotenuse.

Answer: C

Question No : 40 - (Topic 1)

Given:

```
2. public class Hi {  
3. void m1() { }  
4. protected void() m2 { }  
5. }  
6. class Lois extends Hi {  
7. // insert code here  
8. }
```

Which four code fragments, inserted independently at line 7, will compile? (Choose four.)

- A. public void m1() { }
- B. protected void m1() { }
- C. private void m1() { }
- D. void m2() { }
- E. public void m2() { }
- F. protected void m2() { }
- G. private void m2() { }

Answer: A,B,E,F

Question No : 41 - (Topic 1)

Which two code fragments are most likely to cause a StackOverflowError? (Choose two.)

- A.

```
int []x = {1,2,3,4,5};  
for(int y = 0; y < 6; y++)  
System.out.println(x[y]);
```
- B.

```
static int[] x = {7,6,5,4};  
static { x[1] = 8;
```

```
x[4] = 3; }  
C. for(int y = 10; y < 10; y++)  
doStuff(y);  
D. void doOne(int x) { doTwo(x); }  
void doTwo(int y) { doThree(y); }  
void doThree(int z) { doTwo(z); }  
E. for(int x = 0; x < 1000000000; x++)  
doStuff(x);  
F. void counter(int i) { counter(++i); }
```

Answer: D,F

Question No : 42 - (Topic 1)

Given:

```
11. class A {  
12.     public void process() { System.out.print("A,"); }  
13. class B extends A {  
14.     public void process() throws IOException {  
15.         super.process();  
16.         System.out.print("B,");  
17.         throw new IOException();  
18.     }  
19. public static void main(String[] args) {  
20.     try { new B().process(); }  
21.     catch (IOException e) { System.out.println("Exception"); }  
22. }
```

What is the result?

- A. Exception
- B. A,B,Exception
- C. Compilation fails because of an error in line 20.

- D. Compilation fails because of an error in line 14.
- E. A NullPointerException is thrown at runtime.

Answer: D

Question No : 43 - (Topic 1)

Given:

- 11. public void go(int x) {
- 12. assert (x > 0);
- 13. switch(x) {
- 14. case 2: ;
- 15. default: assert false;
- 16. }
- 17. }
- 18. private void go2(int x) { assert (x < 0); }

Which statement is true?

- A. All of the assert statements are used appropriately.
- B. Only the assert statement on line 12 is used appropriately.
- C. Only the assert statement on line 15 is used appropriately.
- D. Only the assert statement on line 18 is used appropriately.
- E. Only the assert statements on lines 12 and 15 are used appropriately.
- F. Only the assert statements on lines 12 and 18 are used appropriately.
- G. Only the assert statements on lines 15 and 18 are used appropriately.

Answer: G

Question No : 44 - (Topic 1)

Given:

```
1. public class Breaker2 {  
2.     static String o = "";  
3.     public static void main(String[] args) {  
4.         z:  
5.         for(int x = 2; x < 7; x++) {  
6.             if(x==3) continue;  
7.             if(x==5) break z;  
8.             o = o + x;  
9.         }  
10.        System.out.println(o);  
11.    }  
12. }
```

What is the result?

- A. 2
- B. 24
- C. 234
- D. 246
- E. 2346
- F. Compilation fails.

Answer: B

Question No : 45 - (Topic 1)

Given:

```
11. public static void main(String[] args) {  
12.     String str = "null";  
13.     if (str == null) {  
14.         System.out.println("null");
```

```
15. } else (str.length() == 0) {  
16. System.out.println("zero");  
17. } else {  
18. System.out.println("some");  
19. }  
20. }
```

What is the result?

- A. null
- B. zero
- C. some
- D. Compilation fails.
- E. An exception is thrown at runtime.

Answer: D

Question No : 46 - (Topic 1)

Given:

```
11. public class Test {  
12. public static void main(String [] args) {  
13. int x = 5;  
14. boolean b1 = true;  
15. boolean b2 = false;  
16.  
17. if ((x == 4) && !b2 )  
18. System.out.print("1 ");  
19. System.out.print("2 ");  
20. if ((b2 = true) && b1 )
```

```
21. System.out.print("3 ");  
22. }  
23. }
```

What is the result?

- A. 2
- B. 3
- C. 1 2
- D. 2 3
- E. 1 2 3
- F. Compilation fails.
- G. An exception is thrown at runtime.

Answer: D

Question No : 47 - (Topic 1)

Given:

```
11. static void test() throws Error {  
12.     if (true) throw new AssertionError();  
13.     System.out.print("test ");  
14. }  
15. public static void main(String[] args) {  
16.     try { test(); }  
17.     catch (Exception ex) { System.out.print("exception "); }  
18.     System.out.print("end ");  
19. }
```

What is the result?

- A. end
- B. Compilation fails.
- C. exception end

- D. exception test end
- E. A Throwable is thrown by main.
- F. An Exception is thrown by main.

Answer: E

Question No : 48 - (Topic 1)

Given:

- 10. public class Foo {
- 11. static int[] a;
- 12. static { a[0]=2; }
- 13. public static void main(String[] args) {}
- 14. }

Which exception or error will be thrown when a programmer attempts to run this code?

- A. java.lang.StackOverflowError
- B. java.lang.IllegalStateException
- C. java.lang.ExceptionInInitializerError
- D. java.lang.ArrayIndexOutOfBoundsException

Answer: C

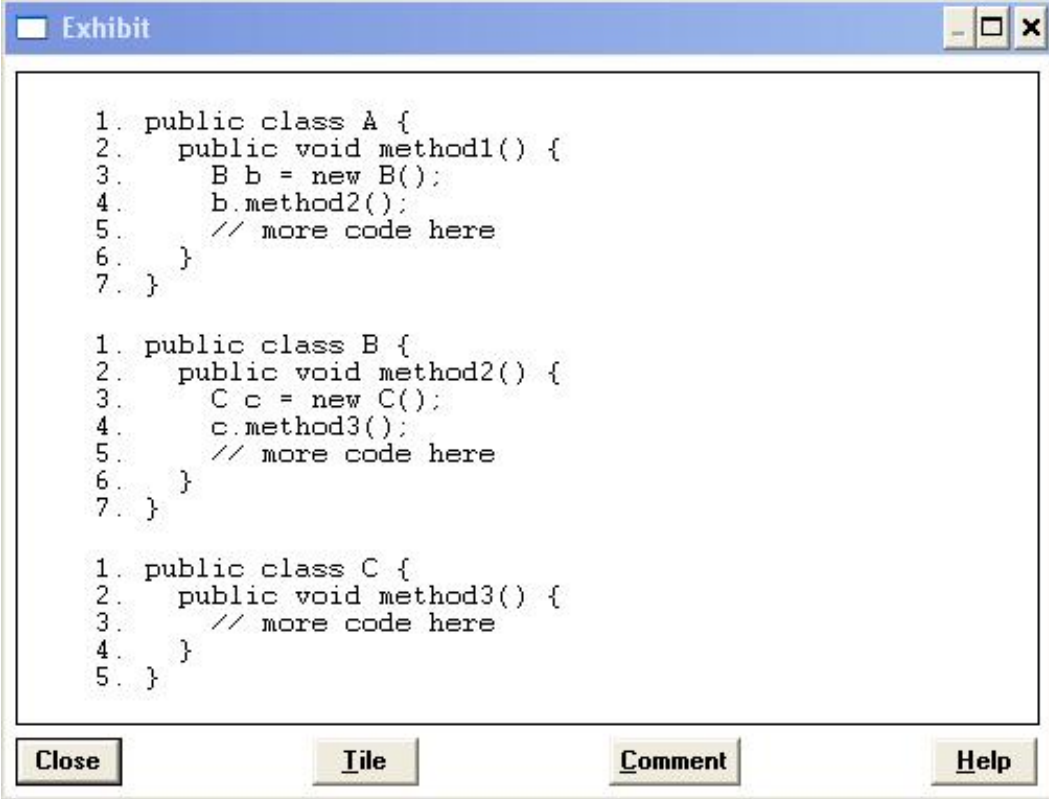
Question No : 49 - (Topic 1)

Click the Exhibit button. Given:

- 25. try {
- 26. A a = new A();
- 27. a.method1();
- 28. } catch (Exception e) {
- 29. System.out.print("an error occurred");

30. }

Which two statements are true if a NullPointerException is thrown on line 3 of class C?
(Choose two.)



```
1. public class A {
2.     public void method1() {
3.         B b = new B();
4.         b.method2();
5.         // more code here
6.     }
7. }

1. public class B {
2.     public void method2() {
3.         C c = new C();
4.         c.method3();
5.         // more code here
6.     }
7. }

1. public class C {
2.     public void method3() {
3.         // more code here
4.     }
5. }
```

- A. The application will crash.
- B. The code on line 29 will be executed.
- C. The code on line 5 of class A will execute.
- D. The code on line 5 of class B will execute.
- E. The exception will be propagated back to line 27.

Answer: B,E

Question No : 50 - (Topic 1)

Given:

- ```
11. public static void main(String[] args) {
12. for (int i = 0; i <= 10; i++) {
13. if (i > 6) break;
```

```
14. }
15. System.out.println(i);
16. }
```

What is the result?

- A. 6
- B. 7
- C. 10
- D. 11
- E. Compilation fails.
- F. An exception is thrown at runtime.

**Answer: E**

### Question No : 51 - (Topic 1)

Given:

```
11. static class A {
12. void process() throws Exception { throw new Exception(); }
13. }
14. static class B extends A {
15. void process() { System.out.println("B"); }
16. }
17. public static void main(String[] args) {
18. new B().process();
19. }
```

What is the result?

- A. B
- B. The code runs with no output.
- C. Compilation fails because of an error in line 12.
- D. Compilation fails because of an error in line 15.

E. Compilation fails because of an error in line 18.

**Answer: A**

**Question No : 52 - (Topic 1)**

Given:

```
1. public class Threads5 {
2. public static void main (String[] args) {
3. new Thread(new Runnable() {
4. public void run() {
5. System.out.print("bar");
6. }).start();
7. }
8. }
```

What is the result?

- A. Compilation fails.
- B. An exception is thrown at runtime.
- C. The code executes normally and prints "bar".
- D. The code executes normally, but nothing prints.

**Answer: C**

**Question No : 53 - (Topic 1)**

Given:

```
1. public class TestOne implements Runnable {
2. public static void main (String[] args) throws Exception {
3. Thread t = new Thread(new TestOne());
```



```
4. t.start();
5. System.out.print("Started");
6. t.join();
7. System.out.print("Complete");
8. }
9. public void run() {
10. for (int i = 0; i < 4; i++) {
11. System.out.print(i);
12. }
13. }
14. }
```

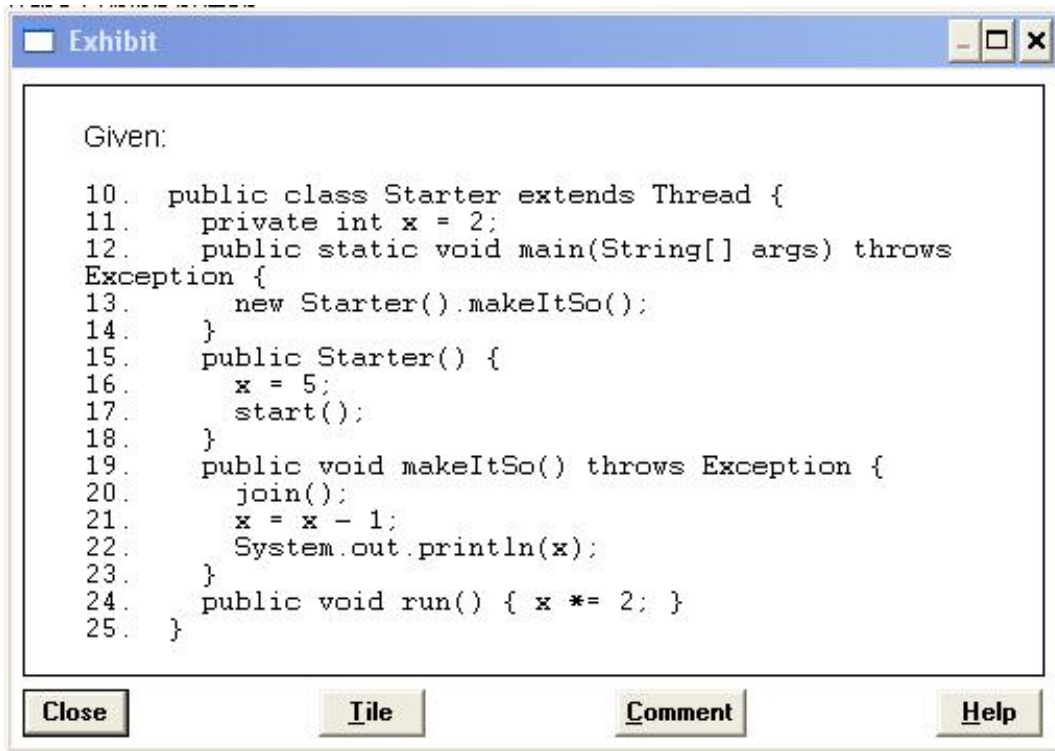
What can be a result?

- A. Compilation fails.
- B. An exception is thrown at runtime.
- C. The code executes and prints "StartedComplete".
- D. The code executes and prints "StartedComplete0123".
- E. The code executes and prints "Started0123Complete".

**Answer: E**

### **Question No : 54 - (Topic 1)**

Click the Exhibit button. What is the output if the main() method is run?



The screenshot shows a window titled "Exhibit" with a blue title bar and standard window controls. The main content area contains the following Java code:

```
Given:

10. public class Starter extends Thread {
11. private int x = 2;
12. public static void main(String[] args) throws
Exception {
13. new Starter().makeItSo();
14. }
15. public Starter() {
16. x = 5;
17. start();
18. }
19. public void makeItSo() throws Exception {
20. join();
21. x = x - 1;
22. System.out.println(x);
23. }
24. public void run() { x *= 2; }
25. }
```

At the bottom of the window, there are four buttons: "Close", "File", "Comment", and "Help".

- A. 4
- B. 5
- C. 8
- D. 9
- E. Compilation fails.
- F. An exception is thrown at runtime.
- G. It is impossible to determine for certain.

**Answer: D**

**Question No : 55 - (Topic 1)**

Given:

```
1. public class TestFive {
2. private int x;
3. public void foo() {
4. int current = x;
5. x = current + 1;
6. }
```

```
7. public void go() {
8. for(int i = 0; i < 5; i++) {
9. new Thread() {
10. public void run() {
11. foo();
12. System.out.print(x + ", ");
13. } }.start();
14. } }
```

Which two changes, taken together, would guarantee the output: 1, 2, 3, 4, 5, ? (Choose two.)

- A. move the line 12 print statement into the foo() method
- B. change line 7 to public synchronized void go() {
- C. change the variable declaration on line 2 to private volatile int x;
- D. wrap the code inside the foo() method with a synchronized( this ) block
- E. wrap the for loop code inside the go() method with a synchronized block  
synchronized(this) { // for loop code here }

**Answer: A,D**

### Question No : 56 - (Topic 1)

Given:

```
1. public class Threads2 implements Runnable {
2.
3. public void run() {
4. System.out.println("run.");
5. throw new RuntimeException("Problem");
6. }
7. public static void main(String[] args) {
```

8. Thread t = new Thread(new Threads2());
9. t.start();
10. System.out.println("End of method.");
11. }
12. }

Which two can be results? (Choose two.)

- A. java.lang.RuntimeException: Problem
- B. run.
- java.lang.RuntimeException: Problem
- C. End of method.
- java.lang.RuntimeException: Problem
- D. End of method.
- run.
- java.lang.RuntimeException: Problem
- E. run.
- java.lang.RuntimeException: Problem
- End of method.

**Answer: D,E**

### Question No : 57 DRAG DROP - (Topic 1)

Click the Task button.

Drag and Drop

Given:

```
System.out.printf("Pi is approximately %f and E is approximately %b",
Math.PI, Math.E);
```

Place the values where they would appear in the output.

Pi is approximately

and E is approximately

**Values**

|   |          |       |         |
|---|----------|-------|---------|
| 3 | 3.141593 | true  | Math.PI |
| 2 | 2.718282 | false | Math.E  |

Done

Answer:

Given:

```
System.out.printf("Pi is approximately %f and E is approximately %b",
 Math.PI, Math.E);
```

Place the values where they would appear in the output.

Pi is approximately

and E is approximately

**Values**

|   |          |       |         |
|---|----------|-------|---------|
| 3 | 3.141593 | true  | Math.PI |
| 2 | 2.718282 | false | Math.E  |

**Question No : 58 DRAG DROP - (Topic 1)**

Click the Task button.

Place code into the class so that it compiles and generates the output  
answer=42. Note: Code options may be used more than once.

**Class**

```
public class Place here {
 private Place here object;
 public Place here (Place here object) {
 this.object = object;
 }
 public Place here getObject() {
 return object;
 }

 public static void main(String[] args) {
 Gen<String> str = new Gen<String>("answer");
 Gen<Integer> intg = new Gen<Integer>(42);
 System.out.println(str.getObject() + "=" +
 intg.getObject());
 }
}
```

**Code Options**

- 
- 
- 
- 
- 

Answer:

Drag and Drop

Place code into the class so that it compiles and generates the output answer=42. Note: Code options may be used more than once.

**Class**

```
public class Gen<T> {
 private T object;
 public Gen (T object) {
 this.object = object;
 }
 public T getObject() {
 return object;
 }

 public static void main(String[] args) {
 Gen<String> str = new Gen<String>("answer");
 Gen<Integer> intg = new Gen<Integer>(42);
 System.out.println(str.getObject() + "=" +
 intg.getObject());
 }
}
```

**Code Options**

- Gen<T>
- Gen<?>
- Gen
- ?
- T

Done

**Question No : 59 DRAG DROP - (Topic 1)**

Click the Task button.

Drag and Drop

Place the code fragments in position to complete the Displayable interface.

```
interface Reloadable {
 public void reload();
}

class Edit {
 public void edit() { /* Edit Here */ }
}

interface Displayable
 Place here Place here {
 Place here
}
```

**Code Fragments**

- extends
- implements
- public void display();
- public void display() { /\* Display \*/ }
- Reloadable
- Edit

Done

Answer:

Place the code fragments in position to complete the Displayable interface.

```

interface Reloadable {
 public void reload();
}

class Edit {
 public void edit() { /* Edit Here */ }
}

interface Displayable
 extends Reloadable {
 public void display();
}

```

**Code Fragments**

- extends
- Reloadable
- public void display();
- implements
- public void display() { /\* Display \*/ };
- Edit
- Done

Question No : 60 DRAG DROP - (Topic 1)

Click the Task button.

The doesFileExist method takes an array of directory names representing a path from the root filesystem and a file name. The method returns true if the file exists, false if it does not.

Place the code fragments in position to complete this method.

```

public static boolean doesFileExist(String[] directories, String filename) {
 Place here
 for (String dir : directories) {
 Place here
 }
 Place here
 Place here
}

```

**Code Fragments**

- path = path.getSubdirectory(dir);
- return ! file.isNew();
- return (file != null);
- String path = "";
- path = path.getFile(filename);
- File path = new File("");
- return file.exists();
- return path.isFile();
- File file = new File(path, filename);
- path = new File(path, dir);
- File path = new File(File.separator);
- path = path + File.separator + dir;

Answer:

The `doesFileExist` method takes an array of directory names representing a path from the root filesystem and a file name. The method returns true if the file exists, false if it does not.

Place the code fragments in position to complete this method.

```
public static boolean doesFileExist(String[] directories, String filename) {
 String path = "";
 for (String dir : directories) {
 path = path + File.separator + dir;
 }
 File file = new File(path, filename);
 return file.exists();
}
```

**Code Fragments**

|                                                |                                                    |                                                    |
|------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| <code>path = path.getSubdirectory(dir);</code> | <code>return ! file.isNew();</code>                | <code>return (file != null);</code>                |
| <code>String path = "";</code>                 | <code>path = path.getFile(filename);</code>        | <code>File path = new File("");</code>             |
| <code>return file.exists();</code>             | <code>return path.isFile();</code>                 | <code>File file = new File(path, filename);</code> |
| <code>path = new File(path, dir);</code>       | <code>File path = new File(File.separator);</code> | <code>path = path + File.separator + dir;</code>   |

**Question No : 61 - (Topic 1)**

Given:

1. public class TestString1 {
2. public static void main(String[] args) {
3. String str = "420";
4. str += 42;
5. System.out.print(str);
6. }
7. }

What is the output?

- A. 42
- B. 420
- C. 462
- D. 42042
- E. Compilation fails.
- F. An exception is thrown at runtime.



**Answer: D**

**Question No : 62 - (Topic 1)**

Given:

12. Date date = new Date();
13. df.setLocale(Locale.ITALY);
14. String s = df.format(date);

The variable df is an object of type DateFormat that has been initialized in line 11. What is the result if this code is run on December 14, 2000?

- A. The value of s is 14-dic-2000.
- B. The value of s is Dec 14, 2000.
- C. An exception is thrown at runtime.
- D. Compilation fails because of an error in line 13.

**Answer: D**

**Question No : 63 - (Topic 1)**

Given:

1. public class KungFu {
2. public static void main(String[] args) {
3. Integer x = 400;
4. Integer y = x;
5. x++;
6. StringBuilder sb1 = new StringBuilder("123");
7. StringBuilder sb2 = sb1;
8. sb1.append("5");

```
9. System.out.println((x==y) + " " + (sb1==sb2));
10. }
11. }
```

What is the result?

- A. true true
- B. false true
- C. true false
- D. false false
- E. Compilation fails.
- F. An exception is thrown at runtime.

**Answer: B**

### Question No : 64 - (Topic 1)

Given that the current directory is empty, and that the user has read and write privileges to the current directory, and the following:

```
1. import java.io.*;
2. public class Maker {
3. public static void main(String[] args) {
4. File dir = new File("dir");
5. File f = new File(dir, "f");
6. }
7. }
```

Which statement is true?

- A. Compilation fails.
- B. Nothing is added to the file system.
- C. Only a new file is created on the file system.
- D. Only a new directory is created on the file system.
- E. Both a new file and a new directory are created on the file system.

**Answer: B**

**Question No : 65 - (Topic 1)**

Given:

12. String csv = "Sue,5,true,3";
13. Scanner scanner = new Scanner( csv );
14. scanner.useDelimiter(",");
15. int age = scanner.nextInt();

What is the result?

- A. Compilation fails.
- B. After line 15, the value of age is 5.
- C. After line 15, the value of age is 3.
- D. An exception is thrown at runtime.

**Answer: D**

**Question No : 66 - (Topic 1)**

Given that t1 is a reference to a live thread, which is true?

- A. The Thread.sleep() method can take t1 as an argument.
- B. The Object.notify() method can take t1 as an argument.
- C. The Thread.yield() method can take t1 as an argument.
- D. The Thread.setPriority() method can take t1 as an argument.
- E. The Object.notify() method arbitrarily chooses which thread to notify.

**Answer: E**

**Question No : 67 - (Topic 1)**

Given that Triangle implements Runnable, and:

```
31. void go() throws Exception {
32. Thread t = new Thread(new Triangle());
33. t.start();
34. for(int x = 1; x < 100000; x++) {
35. //insert code here
36. if(x%100 == 0) System.out.print("g");
37. } }
38. public void run() {
39. try {
40. for(int x = 1; x < 100000; x++) {
41. // insert the same code here
42. if(x%100 == 0) System.out.print("t");
43. }
44. } catch (Exception e) { }
45. }
```

Which two statements, inserted independently at both lines 35 and 41, tend to allow both threads to temporarily pause and allow the other thread to execute? (Choose two.)

- A. Thread.wait();
- B. Thread.join();
- C. Thread.yield();
- D. Thread.sleep(1);
- E. Thread.notify();

**Answer: C,D**

### **Question No : 68 - (Topic 1)**

Given:

```
1. public class Threads3 implements Runnable {
2. public void run() {
3. System.out.print("running");
4. }
5. public static void main(String[] args) {
6. Thread t = new Thread(new Threads3());
7. t.run();
8. t.run();
9. t.start();
10. }
11. }
```

What is the result?

- A. Compilation fails.
- B. An exception is thrown at runtime.
- C. The code executes and prints "running".
- D. The code executes and prints "runningrunning".
- E. The code executes and prints "runningrunningrunning".

**Answer: E**

### **Question No : 69 - (Topic 1)**

Given:

```
1. public class Threads5 {
2. public static void main (String[] args) {
3. new Thread(new Runnable() {
4. public void run() {
5. System.out.print("bar");
```

```
6. }}).start();
7. }
8. }
```

What is the result?

- A. Compilation fails.
- B. An exception is thrown at runtime.
- C. The code executes normally and prints "bar".
- D. The code executes normally, but nothing prints.

**Answer: C**

### Question No : 70 - (Topic 1)

Given:

```
11. public class PingPong implements Runnable {
12. synchronized void hit(long n) {
13. for(int i = 1; i < 3; i++)
14. System.out.print(n + "-" + i + " ");
15. }
16. public static void main(String[] args) {
17. new Thread(new PingPong()).start();
18. new Thread(new PingPong()).start();
19. }
20. public void run() {
21. hit(Thread.currentThread().getId());
22. }
23. }
```

Which two statements are true? (Choose two.)

- A. The output could be 8-1 7-2 8-2 7-1
- B. The output could be 7-1 7-2 8-1 6-1
- C. The output could be 8-1 7-1 7-2 8-2
- D. The output could be 8-1 8-2 7-1 7-2

**Answer: C,D**

### Question No : 71 - (Topic 1)

Given:

- 10. interface A { void x(); }
- 11. class B implements A { public void x() {} public void y() {} }
- 12. class C extends B { public void x() {} } And:
- 20. java.util.List<A> list = new java.util.ArrayList<A>();
- 21. list.add(new B());
- 22. list.add(new C());
- 23. for (A a : list) {
- 24. a.x();
- 25. a.y();
- 26. }

What is the result?

- A. The code runs with no output.
- B. An exception is thrown at runtime.
- C. Compilation fails because of an error in line 20.
- D. Compilation fails because of an error in line 21.
- E. Compilation fails because of an error in line 23.
- F. Compilation fails because of an error in line 25.

**Answer: F**

### Question No : 72 - (Topic 1)

Given:

```
11. class Mammal { }
12.
13. class Raccoon extends Mammal {
14. Mammal m = new Mammal();
15. }
16.
17. class BabyRaccoon extends Mammal { }
```

Which four statements are true? (Choose four.)

- A. Raccoon is-a Mammal.
- B. Raccoon has-a Mammal.
- C. BabyRaccoon is-a Mammal.
- D. BabyRaccoon is-a Raccoon.
- E. BabyRaccoon has-a Mammal.
- F. BabyRaccoon is-a BabyRaccoon.

**Answer: A,B,C,F**

### Question No : 73 - (Topic 1)

Given:

```
10: public class Hello {
11: String title;
12: int value;
13: public Hello() {
14: title += " World";
15: }
16: public Hello(int value) {
17: this.value = value;
```



```
18: title = "Hello";
19: Hello();
20: }
21: } and:
30: Hello c = new Hello(5);
31: System.out.println(c.title);
```

What is the result?

- A. Hello
- B. Hello World
- C. Compilation fails.
- D. Hello World 5
- E. The code runs with no output.
- F. An exception is thrown at runtime.

**Answer: C**

### Question No : 74 - (Topic 1)

Given:

```
1. class ClassA {
2. public int numberOfInstances;
3. protected ClassA(int numberOfInstances) {
4. this.numberOfInstances = numberOfInstances;
5. }
6. }
7. public class ExtendedA extends ClassA {
8. private ExtendedA(int numberOfInstances) {
9. super(numberOfInstances);
10. }
```

```
11. public static void main(String[] args) {
12. ExtendedA ext = new ExtendedA(420);
13. System.out.print(ext.numberofInstances);
14. }
15. }
```

Which statement is true?

- A. 420 is the output.
- B. An exception is thrown at runtime.
- C. All constructors must be declared public.
- D. Constructors CANNOT use the private modifier.
- E. Constructors CANNOT use the protected modifier.

**Answer: A**

### Question No : 75 - (Topic 1)

Given:

```
1. public class Target {
2. private int i = 0;
3. public int addOne(){
4. return ++i;
5. }
6. } And:
1. public class Client {
2. public static void main(String[] args){
3. System.out.println(new Target().addOne());
4. }
5. }
```

Which change can you make to Target without affecting Client?

- A. Line 4 of class Target can be changed to return i++;
- B. Line 2 of class Target can be changed to private int i = 1;
- C. Line 3 of class Target can be changed to private int addOne(){
- D. Line 2 of class Target can be changed to private Integer i = 0;

**Answer: D**

### Question No : 76 - (Topic 1)

Given:

1. public class Blip {
2. protected int blipvert(int x) { return 0; }
3. }
4. class Vert extends Blip {
5. // insert code here
6. }

Which five methods, inserted independently at line 5, will compile? (Choose five.)

- A. public int blipvert(int x) { return 0; }
- B. private int blipvert(int x) { return 0; }
- C. private int blipvert(long x) { return 0; }
- D. protected long blipvert(int x) { return 0; }
- E. protected int blipvert(long x) { return 0; }
- F. protected long blipvert(long x) { return 0; }
- G. protected long blipvert(int x, int y) { return 0; }

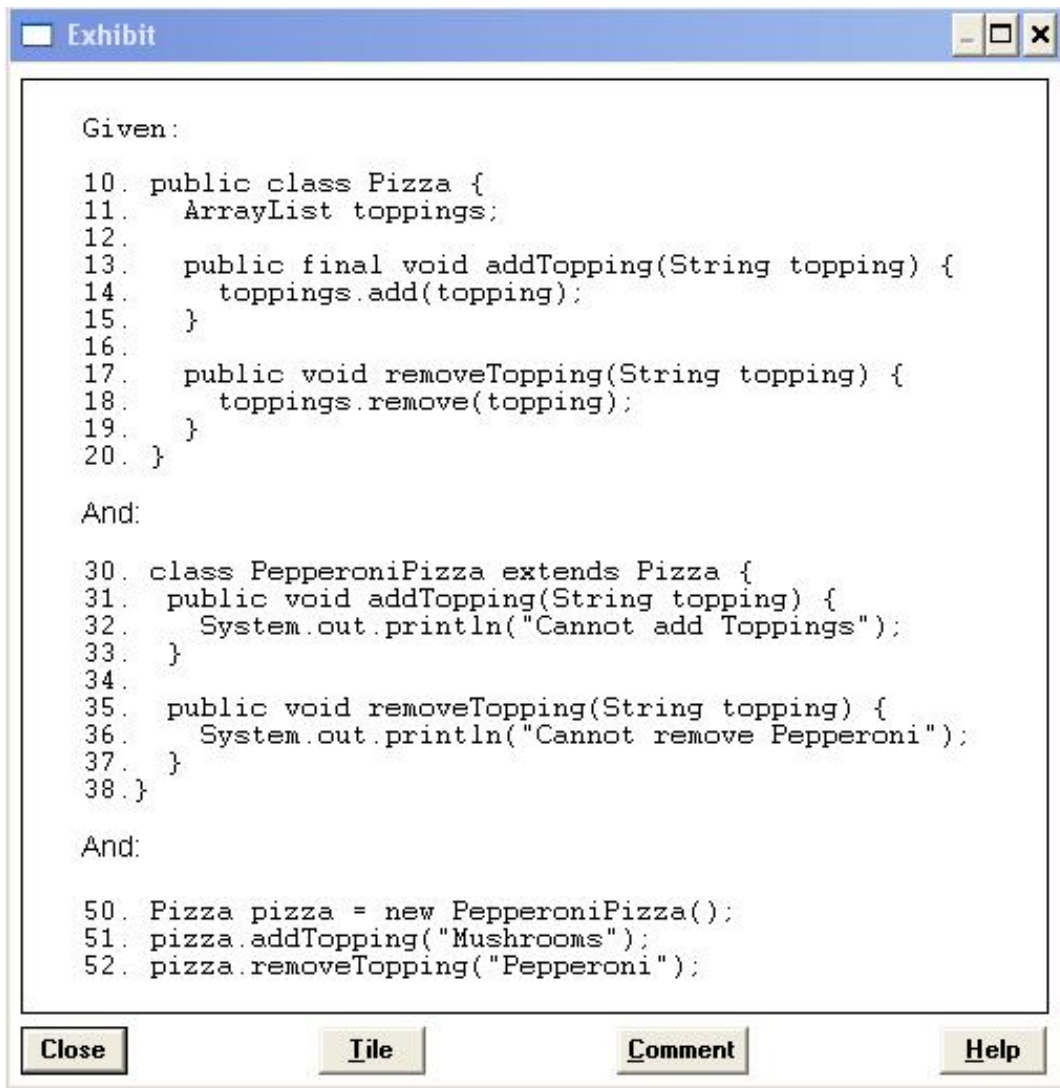
**Answer: A,C,E,F,G**

### Question No : 77 - (Topic 1)

Given:

```
1. class Pizza {
2. java.util.ArrayList toppings;
3. public final void addTopping(String topping) {
4. toppings.add(topping);
5. }
6. }
7. public class PepperoniPizza extends Pizza {
8. public void addTopping(String topping) {
9. System.out.println("Cannot add Toppings");
10. }
11. public static void main(String[] args) {
12. Pizza pizza = new PepperoniPizza();
13. pizza.addTopping("Mushrooms");
14. }
15. }
```

What is the result?



```
Exhibit

Given:

10. public class Pizza {
11. ArrayList toppings;
12.
13. public final void addTopping(String topping) {
14. toppings.add(topping);
15. }
16.
17. public void removeTopping(String topping) {
18. toppings.remove(topping);
19. }
20. }

And:

30. class PepperoniPizza extends Pizza {
31. public void addTopping(String topping) {
32. System.out.println("Cannot add Toppings");
33. }
34.
35. public void removeTopping(String topping) {
36. System.out.println("Cannot remove Pepperoni");
37. }
38. }

And:

50. Pizza pizza = new PepperoniPizza();
51. pizza.addTopping("Mushrooms");
52. pizza.removeTopping("Pepperoni");

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```

- A. Compilation fails.
- B. Cannot add Toppings
- C. The code runs with no output.
- D. A NullPointerException is thrown in Line 4.

**Answer: A**

### Question No : 78 - (Topic 1)

Given:

- 11. class ClassA {}
- 12. class ClassB extends ClassA {}
- 13. class ClassC extends ClassA {} and:

- 21. `ClassA p0 = new ClassA();`
- 22. `ClassB p1 = new ClassB();`
- 23. `ClassC p2 = new ClassC();`
- 24. `ClassA p3 = new ClassB();`
- 25. `ClassA p4 = new ClassC();`

Which three are valid? (Choose three.)

- A. `p0 = p1;`
- B. `p1 = p2;`
- C. `p2 = p4;`
- D. `p2 = (ClassC)p1;`
- E. `p1 = (ClassB)p3;`
- F. `p2 = (ClassC)p4;`

**Answer: A,E,F**

### Question No : 79 - (Topic 1)

Given two files, `GrizzlyBear.java` and `Salmon.java`:

- 1. `package animals.mammals;`
- 2.
- 3. `public class GrizzlyBear extends Bear {`
- 4. `void hunt() {`
- 5. `Salmon s = findSalmon();`
- 6. `s.consume();`
- 7. `}`
- 8. `}`
- 1. `package animals.fish;`
- 2.
- 3. `public class Salmon extends Fish {`

4. `public void consume() { /* do stuff */ }`
5. `}`

If both classes are in the correct directories for their packages, and the Mammal class correctly defines the `findSalmon()` method, which change allows this code to compile?

- A. add `import animals.mammals.*;` at line 2 in `Salmon.java`
- B. add `import animals.fish.*;` at line 2 in `GrizzlyBear.java`
- C. add `import animals.fish.Salmon.*;` at line 2 in `GrizzlyBear.java`
- D. add `import animals.mammals.GrizzlyBear.*;` at line 2 in `Salmon.java`

**Answer: B**

### Question No : 80 - (Topic 1)

Given:

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

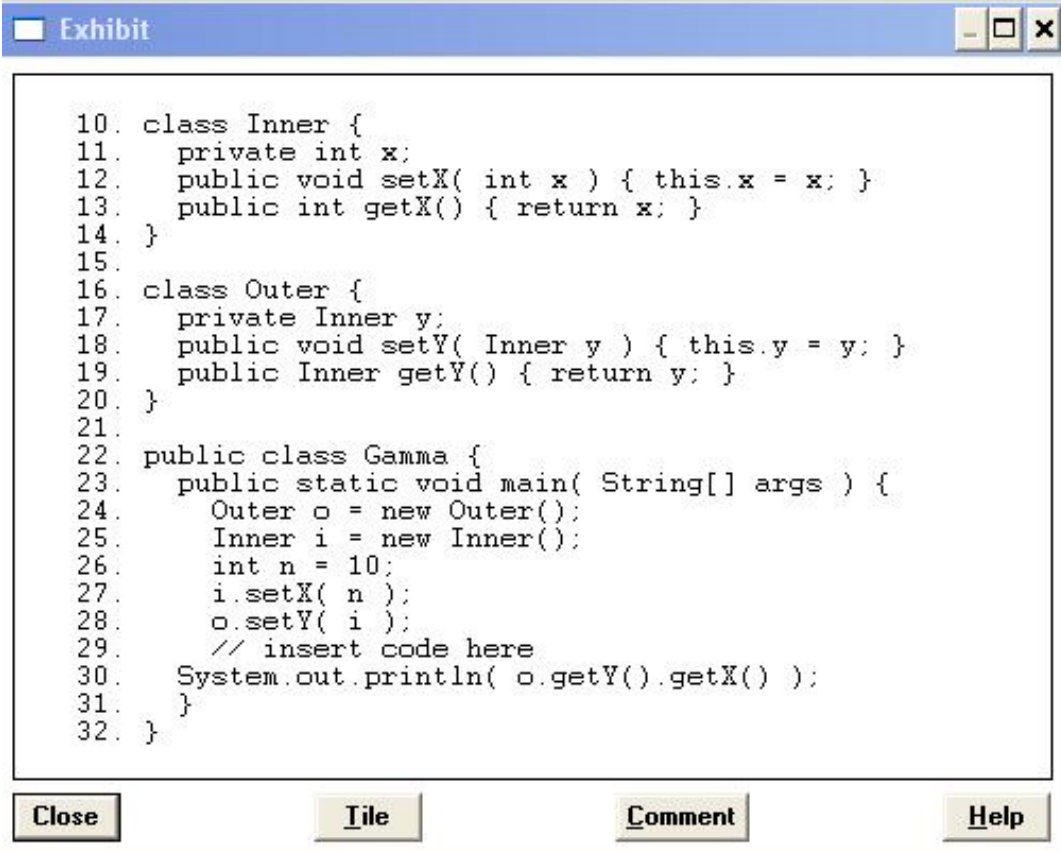
And `MainClass` exists in the `/apps/com/company/application` directory. Assume the `CLASSPATH` environment variable is set to `."` (current directory). Which two java commands entered at the command line will run `MainClass`? (Choose two.)

- 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

**Answer: B,C**

**Question No : 81 - (Topic 1)**

Click the Exhibit button. Which three code fragments, added individually at line 29, produce the output 100? (Choose three.)



```

10. class Inner {
11. private int x;
12. public void setX(int x) { this.x = x; }
13. public int getX() { return x; }
14. }
15.
16. class Outer {
17. private Inner y;
18. public void setY(Inner y) { this.y = y; }
19. public Inner getY() { return y; }
20. }
21.
22. public class Gamma {
23. public static void main(String[] args) {
24. Outer o = new Outer();
25. Inner i = new Inner();
26. int n = 10;
27. i.setX(n);
28. o.setY(i);
29. // insert code here
30. System.out.println(o.getY().getX());
31. }
32. }

```

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- A. n = 100;
- B. i.setX( 100 );
- C. o.getY().setX( 100 );
- D. i = new Inner(); i.setX( 100 );
- E. o.setY( i ); i = new Inner(); i.setX( 100 );
- F. i = new Inner(); i.setX( 100 ); o.setY( i );

**Answer: B,C,F**

**Question No : 82 - (Topic 1)**

A developer is creating a class Book, that needs to access class Paper. The Paper class is deployed in a JAR named myLib.jar. 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

**Answer: B,D,G**

### Question No : 83 - (Topic 1)

Given:

- 11. interface DeclareStuff {
- 12. public static final int EASY = 3;
- 13. void doStuff(int t); }
- 14. public class TestDeclare implements DeclareStuff {
- 15. public static void main(String [] args) {
- 16. int x = 5;
- 17. new TestDeclare().doStuff(++x);
- 18. }
- 19. void doStuff(int s) {
- 20. s += EASY + ++s;
- 21. System.out.println("s " + s);
- 22. }
- 23. }

What is the result?

- A. s 14
- B. s 16
- C. s 10
- D. Compilation fails.
- E. An exception is thrown at runtime.

**Answer: D**

**Question No : 84 - (Topic 1)**

Given:

- 11. public class Commander {
- 12. public static void main(String[] args) {
- 13. String myProp = /\* insert code here \*/
- 14. System.out.println(myProp);
- 15. }
- 16. }

and the command line: java -Dprop.custom=gobstopper Commander Which two, placed on line 13, will produce the output gobstopper? (Choose two.)

- A. System.load("prop.custom");
- B. System.getenv("prop.custom");
- C. System.property("prop.custom");
- D. System.getProperty("prop.custom");
- E. System.getProperties().getProperty("prop.custom");

**Answer: D,E**

**Question No : 85 - (Topic 1)**

Given:

- 3. public class Spock {

```
4. public static void main(String[] args) {
5. Long tail = 2000L;
6. Long distance = 1999L;
7. Long story = 1000L;
8. if((tail > distance) ^ ((story * 2) == tail))
9. System.out.print("1");
10. if((distance + 1 != tail) ^ ((story * 2) == distance))
11. System.out.print("2");
12. }
13. }
```

What is the result?

- A. 1
- B. 2
- C. 12
- D. Compilation fails.
- E. No output is produced.
- F. An exception is thrown at runtime.

**Answer: E**

### **Question No : 86 - (Topic 1)**

Given:

```
1. public class GC {
2. private Object o;
3. private void doSomethingElse(Object obj) { o = obj; }
4. public void doSomething() {
5. Object o = new Object();
6. doSomethingElse(o);
```

7. o = new Object();
8. doSomethingElse(null);
9. o = null;
10. }
11. }

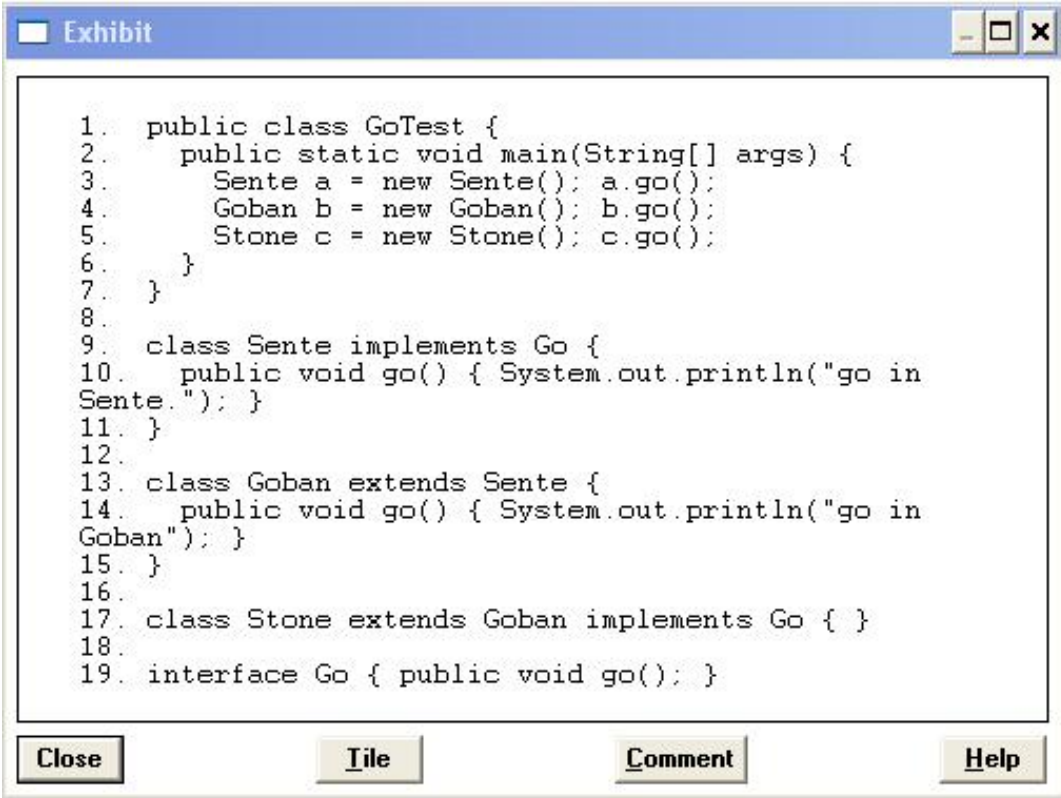
When the doSomething method is called, after which line does the Object created in line 5 become available for garbage collection?

- A. Line 5
- B. Line 6
- C. Line 7
- D. Line 8
- E. Line 9
- F. Line 10

**Answer: D**

**Question No : 87 - (Topic 1)**

Click the Exhibit button. What is the result?



```
1. public class GoTest {
2. public static void main(String[] args) {
3. Sente a = new Sente(); a.go();
4. Goban b = new Goban(); b.go();
5. Stone c = new Stone(); c.go();
6. }
7. }
8.
9. class Sente implements Go {
10. public void go() { System.out.println("go in
Sente."); }
11. }
12.
13. class Goban extends Sente {
14. public void go() { System.out.println("go in
Goban"); }
15. }
16.
17. class Stone extends Goban implements Go { }
18.
19. interface Go { public void go(); }
```

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- A. go in Goban  
go in Sente
- B. go in Sente  
go in Goban
- C. go in Sente  
go in Goban
- D. go in Goban  
go in Sente
- E. Compilation fails because of an error in line 17.

**Answer: C**

### Question No : 88 - (Topic 1)

Given:

1. public class Plant {
2. private String name;
3. public Plant(String name) { this.name = name; }
4. public String getName() { return name; }

5. }

1. public class Tree extends Plant {

2. public void growFruit() { }

3. public void dropLeaves() { }

4. }

Which statement is true?

A. The code will compile without changes.

B. The code will compile if public Tree() { Plant(); } is added to the Tree class.

C. The code will compile if public Plant() { Tree(); } is added to the Plant class.

D. The code will compile if public Plant() { this("fern"); } is added to the Plant class.

E. The code will compile if public Plant() { Plant("fern"); } is added to the Plant class.

**Answer: D**

### Question No : 89 - (Topic 1)

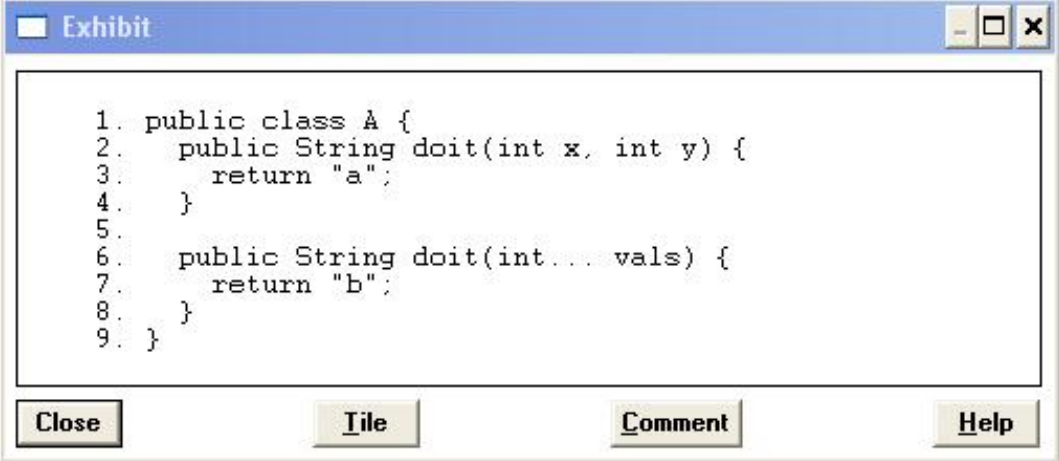
Click the Exhibit button.

Given:

25. A a = new A();

26. System.out.println(a.doit(4, 5));

What is the result?



```
1. public class A {
2. public String doit(int x, int y) {
3. return "a";
4. }
5.
6. public String doit(int... vals) {
7. return "b";
8. }
9. }
```

- A. Line 26 prints "a" to System.out.
- B. Line 26 prints "b" to System.out.
- C. An exception is thrown at line 26 at runtime.
- D. Compilation of class A will fail due to an error in line 6.

**Answer: A**

### Question No : 90 - (Topic 1)

Given:

- ```
11. public enum Title {  
12. MR("Mr."), MRS("Mrs."), MS("Ms.");  
13. private final String title;  
14. private Title(String t) { title = t; }  
15. public String format(String last, String first) {  
16. return title + " " + first + " " + last;  
17. }  
18. }  
19. public static void main(String[] args) {  
20. System.out.println(Title.MR.format("Doe", "John"));  
21. }
```

What is the result?

- A. Mr. John Doe
- B. An exception is thrown at runtime.
- C. Compilation fails because of an error in line 12.
- D. Compilation fails because of an error in line 15.
- E. Compilation fails because of an error in line 20.

Answer: A

Question No : 91 - (Topic 1)

Given:

```
11. public interface A111 {  
12.     String s = "yo";  
13.     public void method1();  
14. }  
  
17. interface B { }  
  
20. interface C extends A111, B {  
21.     public void method1();  
22.     public void method1(int x);  
23. }
```

What is the result?

- A. Compilation succeeds.
- B. Compilation fails due to multiple errors.
- C. Compilation fails due to an error only on line 20.
- D. Compilation fails due to an error only on line 21.
- E. Compilation fails due to an error only on line 22.
- F. Compilation fails due to an error only on line 12.

Answer: A

Question No : 92 - (Topic 1)

Given:

```
1. interface TestA { String toString(); }  
2. public class Test {  
3.     public static void main(String[] args) {  
4.         System.out.println(new TestA() {
```



```
5. public String toString() { return "test"; }  
6. });  
7. }  
8. }
```

What is the result?

- A. test
- B. null
- C. An exception is thrown at runtime.
- D. Compilation fails because of an error in line 1.
- E. Compilation fails because of an error in line 4.
- F. Compilation fails because of an error in line 5.

Answer: A

Question No : 93 - (Topic 1)

Given:

```
11. class Alpha {  
12.     public void foo() { System.out.print("Afoo "); }  
13. }  
14. public class Beta extends Alpha {  
15.     public void foo() { System.out.print("Bfoo "); }  
16.     public static void main(String[] args) {  
17.         Alpha a = new Beta();  
18.         Beta b = (Beta)a;  
19.         a.foo();  
20.         b.foo();  
21.     }  
22. }
```

What is the result?

- A. Afoo Afoo
- B. Afoo Bfoo
- C. Bfoo Afoo
- D. Bfoo Bfoo
- E. Compilation fails.
- F. An exception is thrown at runtime.

Answer: D

Question No : 94 - (Topic 1)

Given:

- 10. abstract public class Employee {
- 11. protected abstract double getSalesAmount();
- 12. public double getCommision() {
- 13. return getSalesAmount() * 0.15;
- 14. }
- 15. }
- 16. class Sales extends Employee {
- 17. // insert method here
- 18. }

Which two methods, inserted independently at line 17, correctly complete the Sales class?
(Choose two.)

- A. double getSalesAmount() { return 1230.45; }
- B. public double getSalesAmount() { return 1230.45; }
- C. private double getSalesAmount() { return 1230.45; }
- D. protected double getSalesAmount() { return 1230.45; }

Answer: B,D