Oracle

Exam 1z0-854

Java Standard Edition 5 Programmer Certified Professional Upgrade Exam

Version: 6.0

[Total Questions: 138]

Question No : 1

Given:

```
20. public class CreditCard {
21.
22. private String cardID;
23. private Integer limit;
24. public String ownerName;
25.
26. public void setCardInformation(String cardID,
27. String ownerName,
28. Integer limit) {
29. this.cardID = cardID;
30. this.ownerName = ownerName;
31. this.limit = limit;
32. }
33. }
```

Which statement is true?

A. The ownerName variable breaks encapsulation.
B. The class is fully encapsulated.
C. The cardID and limit variables break polymorphism.
D. The code demonstrates polymorphism.
E. The setCardInformation method breaks encapsulation.

Answer: A

Question No : 2 DRAG DROP

Click the Task button.

Given:
```
NumberNames nn = new NumberNames();
nn.put("one", 1);
System.out.println(nn.getNames());
```

Place the code into position to create a class that maps from Strings to integer values. The result of execution must be [one]. Some options may be used more than once.

```
public class NumberNames {
  private HashMap< Place here , Place here > map =
      new HashMap< Place here , Place here , Place here ;
  public void put(String name, int value) {
    map.put( Place here , Place here );
  }
  public Place here getNames() {
    return map.keySet();
  }
}
```

String	Integer	int	>
>()	name	value	map
Set<int>	Set<Integer>	HashSet	
Set<Integer,String>	Set<int, String>	Set<String,Integer>	
Set<String, int>	Set<String>	NumberNames	

Done

Answer:

Given:
```
NumberNames nn = new NumberNames();
nn.put("one", 1);
System.out.println(nn.getNames());
```

Place the code into position to create a class that maps from Strings to integer values. The result of execution must be [one]. Some options may be used more than once.

```
public class NumberNames {
  private HashMap< name , map > map =
      new HashMap< value , >() String ;
  public void put(String name, int value) {
    map.put( > , int );
  }
  public Set<Integer,String> getNames() {
    return map.keySet();
  }
}
```

String	Integer	int	>
>()	name	value	map
Set<int>	Set<Integer>	HashSet	
Set<Integer,String>	Set<int, String>	Set<String,Integer>	
Set<String, int>	Set<String>	NumberNames	

Done

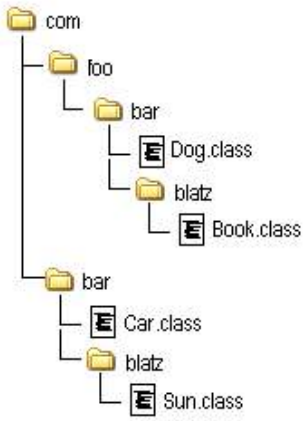
Question No : 3 DRAG DROP

Click the Task button.

The image at right represents a complete package structure for a set of classes: "com" is the beginning of the fully-qualified package name for all classes.

Given this package structure, insert the code needed to make the Car class compile and run successfully.

All three placeholders must be filled. If fewer than three statements are needed, use the "// blank" option.



Place here

Place here

Place here

```
public class Car {
  Book book;
  Dog dog;
}
```

import com.foo.bar.blatz.*;	package com.foo.bar.blatz;
import com.bar.*;	import com.*;
package com.bar;	package com;
import com.foo.*;	// blank
import com.foo.bar.*;	import com.foo.bar.Book;

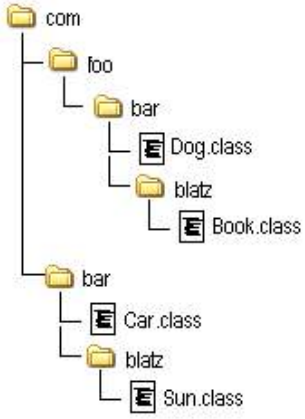
Done

Answer:

The image at right represents a complete package structure for a set of classes: "com" is the beginning of the fully-qualified package name for all classes.

Given this package structure, insert the code needed to make the Car class compile and run successfully.

All three placeholders must be filled. If fewer than three statements are needed, use the "// blank" option.



package com.bar;

package com.foo.bar.blatz;

import com.foo.bar.Book;

```
public class Car {
  Book book;
  Dog dog;
}
```

import com.foo.bar.blatz.*;	package com.foo.bar.blatz;
import com.bar.*;	import com.*;
package com.bar;	package com;
import com.foo.*;	// blank
import com.foo.bar.*;	import com.foo.bar.Book;

Done

Question No : 4

Which three statements concerning the use of the java.io.Serializable interface are true?

(Choose three.)

A. Objects from classes that use aggregation cannot be serialized.
B. The values in fields with the transient modifier will NOT survive serialization and deserialization.
C. It is legal to serialize an object of a type that has a supertype that does NOT implement java.io.Serializable.
D. The values in fields with the volatile modifier will NOT survive serialization and deserialization.
E. An object serialized on one JVM can be successfully deserialized on a different JVM.

Answer: B,C,E

Question No : 5

Which two code fragments will execute the method doStuff() in a separate thread? (Choose two.)

A.
```
new Thread() {
public void start() { doStuff(); }
};
```
B.
```
new Thread() {
public void run() { doStuff(); }
};
```
C.
```
new Thread(new Runnable() {
public void run() { doStuff(); }
}).start();
```
D.
```
new Thread() {
public void start() { doStuff(); }
}.run();
```
E.
```
new Thread(new Runnable() {
public void run() { doStuff(); }
}).run();
```
F.
```
new Thread() {
public void run() { doStuff(); }
}.start();
```

Answer: C,F

Question No : 6

Given:

```
12. import java.io.*;
13. public class Forest implements Serializable {
14. private Tree tree = new Tree();
15. public static void main(String [] args) {
16. Forest f = new Forest();
17. try {
18. FileOutputStream fs = new FileOutputStream("Forest.ser");
19. ObjectOutputStream os = new ObjectOutputStream(fs);
20. os.writeObject(f); os.close();
21. } catch (Exception ex) { ex.printStackTrace(); }
22. } }
23.
24. class Tree { }
```

What is the result?

A. An exception is thrown at runtime.
B. An instance of Forest is serialized.
C. An instance of Forest and an instance of Tree are both serialized.
D. Compilation fails.

Answer: A

Question No : 7

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. }

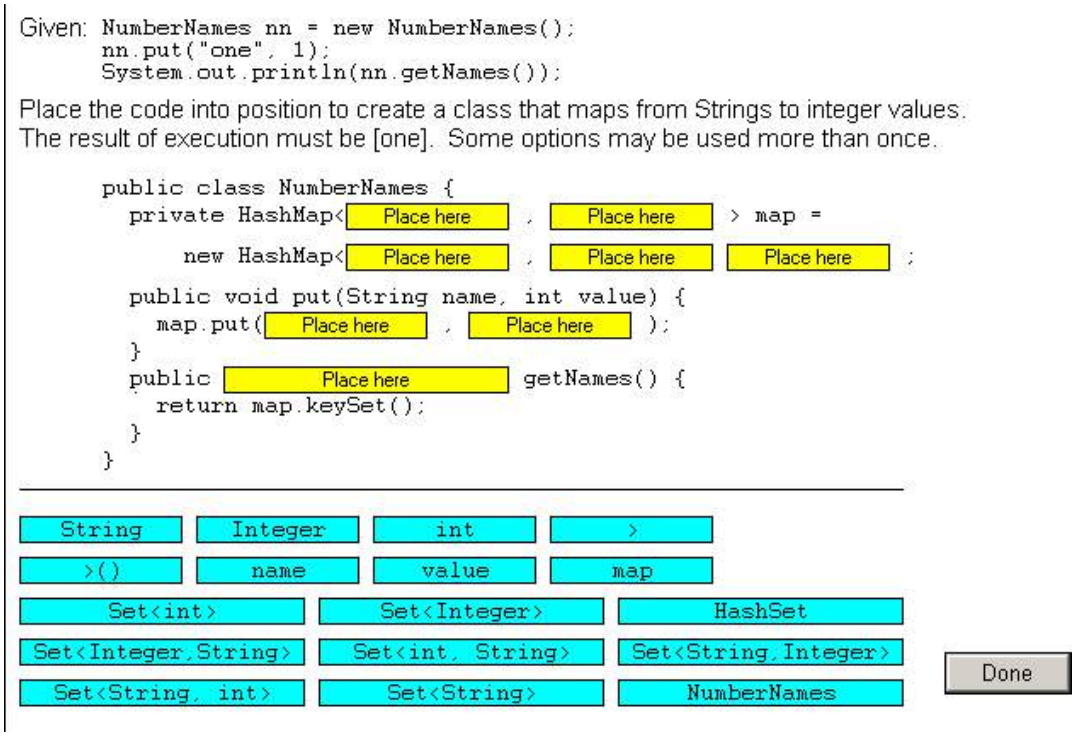
What is the result?

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

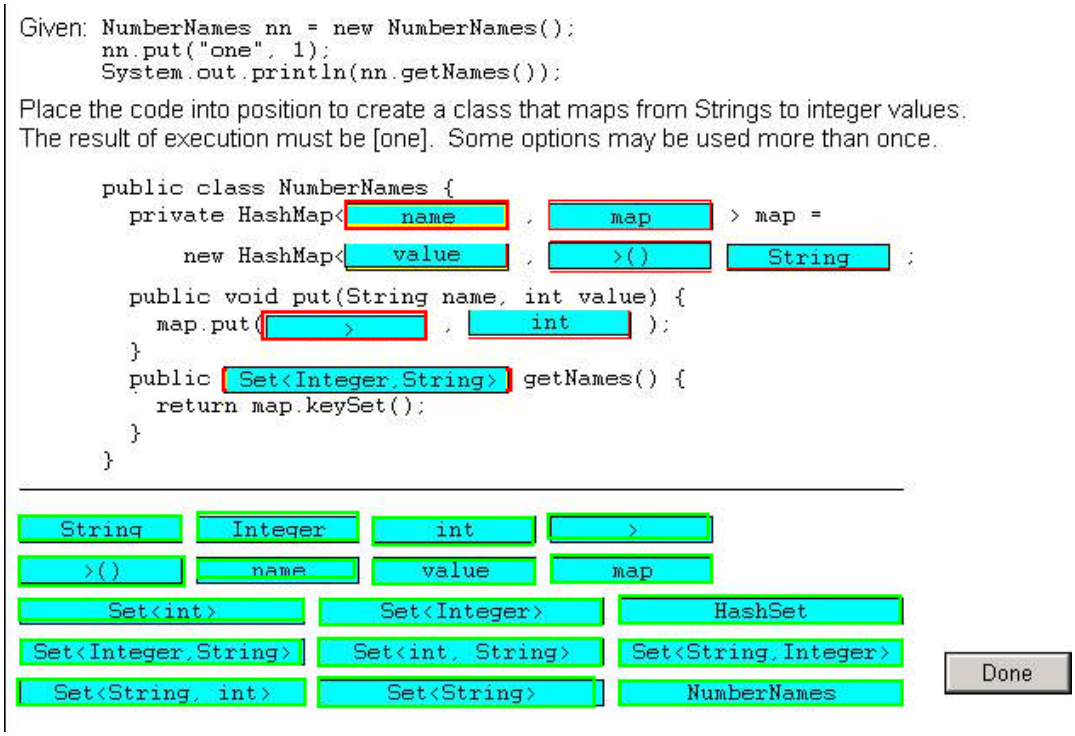
Answer: F

Question No : 8 DRAG DROP

Click the Task button.



Answer:



Question No : 9

Given:

1. public class Boxer1{
2. Integer i;
3. int x;
4. public Boxer1(int y) {
5. x = i+y;
6. System.out.println(x);
7. }
8. public static void main(String[] args) {
9. new Boxer1(new Integer(4));
10. }
11. }

What is the result?

A. Compilation fails because of an error in line 5.
B. A NullPointerException occurs at runtime.
C. Compilation fails because of an error in line 9.
D. A NumberFormatException occurs at runtime.
E. The value "4" is printed at the command line.
F. An IllegalStateException occurs at runtime.

Answer: B

Question No : 10

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

Answer: D

Question No : 11

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

Answer: D

Question No : 12

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

Answer: C,E

Question No : 13

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

Answer: D,E,G

Question No : 14

Given:

```
10. public class SuperCalc {
11. protected static int multiply(int a, int b) { return a * b;}
12. }
```

and:

```
20. public class SubCalc extends SuperCalc{
21. public static int multiply(int a, int b) {
22. int c = super.multiply(a, b);
23. return c;
24. }
25. }
```

and:

30. SubCalc sc = new SubCalc ();

31. System.out.println(sc.multiply(3,4));

32. System.out.println(SubCalc.multiply(2,2));

What is the result?

A. Compilation fails because of an error in line 31.
B. The code runs with no output.
C. 12
4
D. Compilation fails because of an error in line 22.
E. An exception is thrown at runtime.
F. Compilation fails because of an error in line 21.

Answer: D

Question No : 15

Given:

12. NumberFormat nf = NumberFormat.getInstance();

13. nf.setMaximumFractionDigits(4);

14. nf.setMinimumFractionDigits(2);

15. String a = nf.format(3.1415926);

16. String b = nf.format(2);

Which two statements are true about the result if the default locale is Locale.US? (Choose two.)

A. The value of a is 3.1415.
B. The value of a is 3.14.
C. The value of a is 3.141.
D. The value of b is 2.
E. The value of b is 2.0000.
F. The value of a is 3.1416.
G. The value of b is 2.00.

Answer: F,G

Question No : 16

Click the Exhibit button.

Which statement is true about the two classes?

SomeException:

```
1. public class SomeException {
2. }
```

Class A:

```
1. public class A {
2.    public void doSomething() { }
3. }
```

Class B:

```
1. public class B extends A {
2.    public void doSomething() throws
SomeException { }
3. }
```

A. Compilation of class B will fail. Compilation of class A will succeed.
B. Compilation of class A will fail. Compilation of class B will succeed.
C. Compilation of both classes will fail.
D. Compilation of both classes will succeed.

Answer: A

Question No : 17

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

Answer: C,D,F

Question No : 18

Given this method in a class:

21. public String toString() {

22. StringBuffer buffer = new StringBuffer();

23. buffer.append('<');

24. buffer.append(this.name);

25. buffer.append('>');

26. return buffer.toString();

27. }

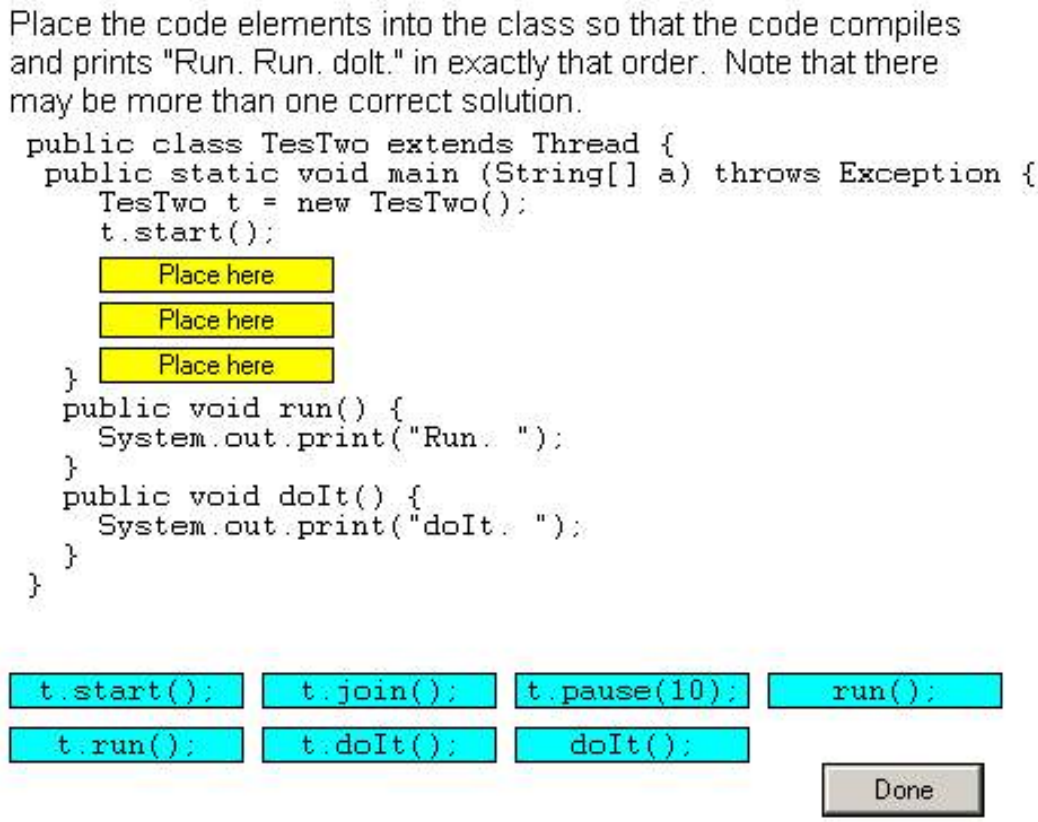
Which statement is true?

A. This code will perform well and converting the code to use StringBuilder will not enhance the performance.
B. This code will perform poorly. For better performance, the code should be rewritten: return "<" + this.name + ">";
C. This code is NOT thread-safe.
D. The programmer can replace StringBuffer with StringBuilder with no other changes.

Answer: D

Question No : 19 DRAG DROP

Click the Task button.



Answer:

Place the code elements into the class so that the code compiles and prints "Run. Run. dolt." in exactly that order. Note that there may be more than one correct solution.

```
public class TesTwo extends Thread {
 public static void main (String[] a) throws Exception {
    TesTwo t = new TesTwo();
    t.start();
    t.doIt();
    t.pause(10);
    t.run();
  }
  public void run() {
    System.out.print("Run. ");
  }
  public void doIt() {
    System.out.print("doIt. ");
  }
}
```

t.start(); | t.join(); | t.pause(10); | run();
t.run(); | t.doIt(); | doIt();

Done

Question No : 20

Click the Exhibit button.

What two must the programmer do to correct the compilation errors? (Choose two.)

```
1. public class Car {
2.   private int wheelCount;
3.   private String vin;
4.   public Car(String vin) {
5.     this.vin = vin;
6.     this.wheelCount = 4;
7.   }
8.   public String drive() {
9.     return "zoom-zoom";
10.  }
11.  public String getInfo() {
12.    return "VIN: " + vin + " wheels: " +
wheelCount;
13.  }
14. }
```

And:

```
1. public class MeGo extends Car {
2.   public MeGo(String vin) {
3.     this.wheelCount = 3;
4.   }
5. }
```

A. change the wheelCount variable in Car to protected
B. insert a call to this() in the MeGo constructor
C. insert a call to this() in the Car constructor
D. insert a call to super(vin) in the MeGo constructor
E. insert a call to super() in the MeGo constructor
F. change line 3 in the MeGo class to super.wheelCount = 3;

Answer: A,D

Question No : 21

Given:

31. // some code here

32. try {

33. // some code here

34. } catch (SomeException se) {

35. // some code here

36. } finally {

37. // some code here

38. }

Under which three circumstances will the code on line 37 be executed? (Choose three.)

A. The code on line 35 throws an exception.
B. The instance gets garbage collected.
C. The code on line 31 throws an exception.
D. The code on line 33 executes successfully.
E. The code on line 33 throws an exception.

Answer: A,D,E

Question No : 22

Given:

10. public class ClassA {

11. public void count(int i) {

12. count(++i);

13. }

14. }

And:

20. ClassA a = new ClassA();

21. a.count(3);

Which exception or error should be thrown by the virtual machine?

A. StackOverflowError
B. NullPointerException

C. ExceptionInInitializerError
D. IllegalArgumentException
E. NumberFormatException

Answer: A

Question No : 23

Given:

```
1. public class Threads4 {
2. public static void main (String[] args) {
3. new Threads4().go();
4. }
5. public void go() {
6. Runnable r = new Runnable() {
7. public void run() {
8. System.out.print("foo");
9. }
10. };
11. Thread t = new Thread(r);
12. t.start();
13. t.start();
14. }
15. }
```

What is the result?

A. The code executes normally and prints "foo".
B. An exception is thrown at runtime.
C. The code executes normally, but nothing is printed.

D. Compilation fails.

Answer: B

Question No : 24

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

Answer: D

Question No : 25

Which two statements are true? (Choose two.)

A. An encapsulated class allows subclasses to overload methods, but does NOT allow overriding methods.
B. An encapsulated, public class promotes re-use.
C. An encapsulated class allows a programmer to change an implementation without affecting outside code.
D. Classes that share the same interface are always tightly encapsulated.

Answer: B,C

Question No : 26

Given:

```
1. public class MyLogger {
2. private StringBuilder logger = new StringBuuilder();
3. public void log(String message, String user) {
4. logger.append(message);
5. logger.append(user);
6. }
7. }
```

The programmer must guarantee that a single MyLogger object works properly for a multi-threaded system.

How must this code be changed to be thread-safe?

A. replace StringBuilder with StringBuffer
B. No change is necessary, the current MyLogger code is already thread-safe.
C. replace StringBuilder with just a String object and use the string concatenation (+=) within the log method
D. synchronize the log method

Answer: D

Question No : 27

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. }
```

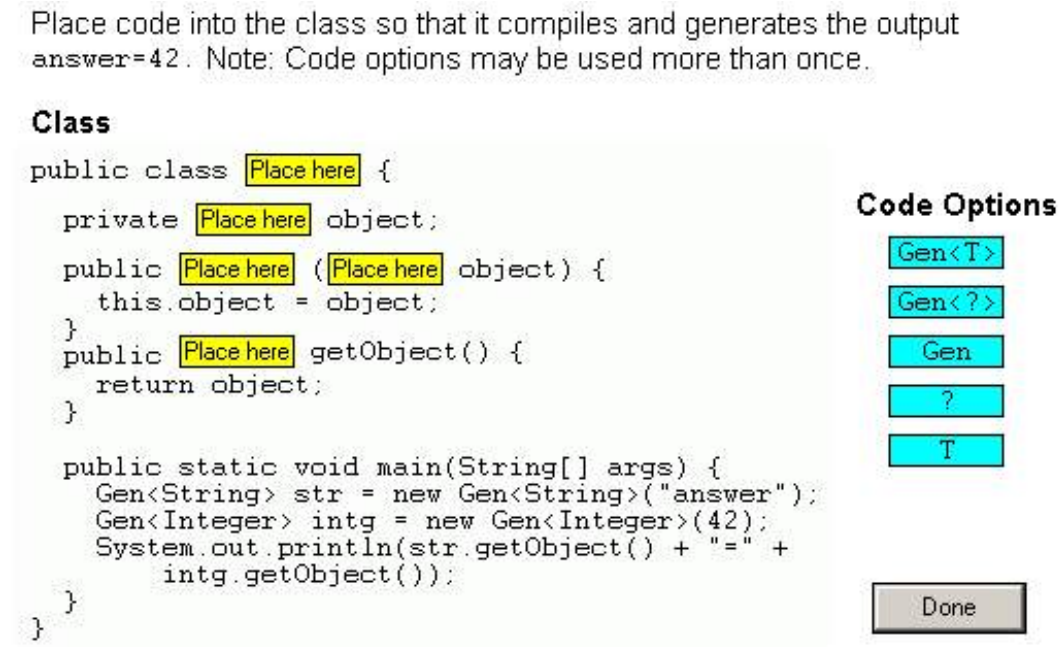
Which statement is true?

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

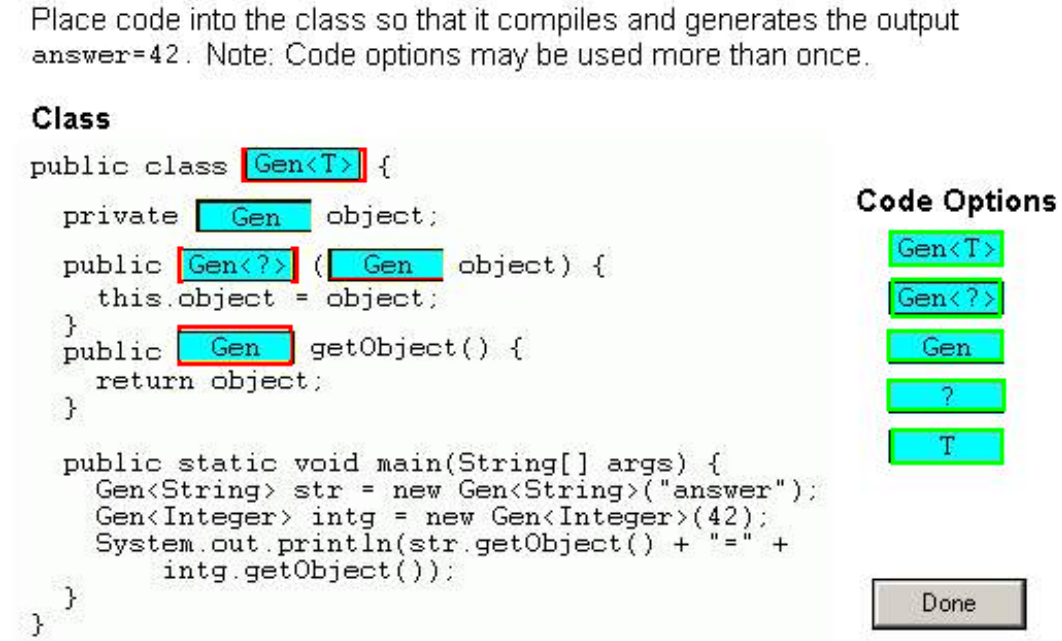
Answer: E

Question No : 28 DRAG DROP

Click the Task button.



Answer:



Question No : 29

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 15.
D. Compilation fails because of an error in line 12.
E. Compilation fails because of an error in line 18.

Answer: A

Question No : 30 DRAG DROP

Click the Task button.

Place the code into the GenericB class definition to make the class compile successfully.

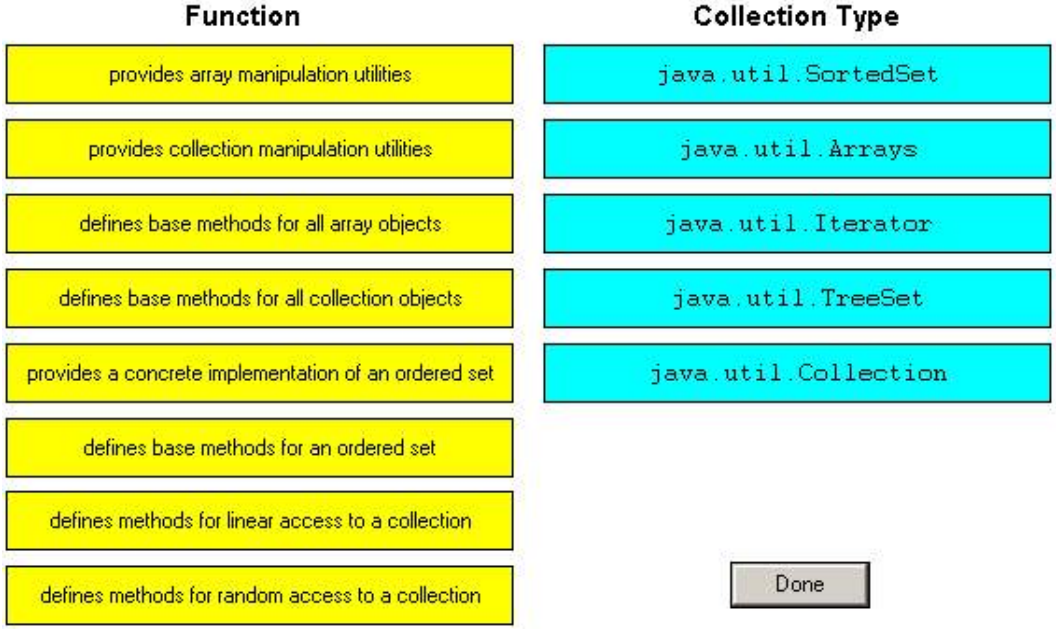
Answer:

Place the code into the GenericB class definition to make the class compile successfully.

Question No : 31 DRAG DROP

Click the Task button.

Place each Collection Type on its function.
Note: Not all functions will be used.



Answer:

Place each Collection Type on its function.
Note: Not all functions will be used.

Question No : 32

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. }
```

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

Answer: A

Question No : 33

Given:

31. // some code here

32. try {

33. // some code here

34. } catch (SomeException se) {

35. // some code here

36. } finally {

37. // some code here

38. }

Under which three circumstances will the code on line 37 be executed? (Choose three.)

A. The code on line 33 executes successfully.
B. The code on line 35 throws an exception.
C. The code on line 33 throws an exception.
D. The instance gets garbage collected.
E. The code on line 31 throws an exception.

Answer: A,B,C

Question No : 34

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

Answer: A

Question No : 35

Click the Exhibit button.

What is the result?

```
11. class Person {
12.   String name = "No name";
13.   public Person(String nm) { name = nm; }
14. }
15.
16. class Employee extends Person {
17.   String empID = "0000";
18.   public Employee(String id) { empID =
id; }
19. }
20.
21. public class EmployeeTest {
22.   public static void main(String[] args)
{
23.     Employee e = new Employee("4321");
24.     System.out.println(e.empID);
25.   }
26. }
```

A. 0000
B. An exception is thrown at runtime.
C. 4321
D. Compilation fails because of an error in line 18.

Answer: D

Question No : 36

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"); }}
```

What is the result?

A. Compilation fails because of an error in line 14.
B. A,B,Exception
C. Exception
D. Compilation fails because of an error in line 20.
E. A NullPointerException is thrown at runtime.

Answer: A

Question No : 37

Click the Exhibit button.

What is the result?

```
11. public class Bootchy {
12.   int bootch;
13.   String snootch;
14.
15.   public Bootchy() {
16.     this("snootchy");
17.     System.out.print("first ");
18.   }
19.
20.   public Bootchy(String snootch) {
21.     this(420, "snootchy");
22.     System.out.print("second ");
23.   }
24.
25.   public Bootchy(int bootch, String
snootch) {
26.     this.bootch = bootch;
27.     this.snootch = snootch;
28.     System.out.print("third ");
29.   }
30.
31.   public static void main(String[] args)
{
32.     Bootchy b = new Bootchy();
33.     System.out.print(b.snootch + " " +
b.bootch);
34.   }
35. }
```

A. snootchy 420 third second first
B. first second third snootchy 420
C. third second first snootchy 420
D. snootchy 420 first second third
E. first second first third snootchy 420
F. third first second snootchy 420

Answer: C

Question No : 38 DRAG DROP

Click the Task button.

Given:

```
1. import java.util.*;
2. class A { }
3. class B extends A { }
4. public class Test {
5.   public static void main(String[] args) {
6.     List<A> listA = new LinkedList<A>();
7.     List<B> listB = new LinkedList<B>();
8.     List<Object> listO = new LinkedList<Object>();
9.     // insert code here
10.  }
11.  public static void m1(List<? extends A> list) { }
12.  public static void m2(List<A> list) { }
13. }
```

Place a result onto each method call to indicate what would happen if the method call were inserted at line 9.
Note: Results can be used more than once.

Method Calls		Result
m1(listA);	m2(listA);	Does not compile.
m1(listB);	m2(listB);	Compiles and runs without error.
m1(listO);	m2(listO);	An exception is thrown at runtime.

Answer:

Given:

```
1. import java.util.*;
2. class A { }
3. class B extends A { }
4. public class Test {
5.   public static void main(String[] args) {
6.     List<A> listA = new LinkedList<A>();
7.     List<B> listB = new LinkedList<B>();
8.     List<Object> listO = new LinkedList<Object>();
9.     // insert code here
10.  }
11.  public static void m1(List<? extends A> list) { }
12.  public static void m2(List<A> list) { }
13. }
```

Place a result onto each method call to indicate what would happen if the method call were inserted at line 9.
Note: Results can be used more than once.

Method Calls		Result
Compiles and runs without error.	Compiles and runs without error.	Does not compile.
Compiles and runs without error.	Does not compile.	Compiles and runs without error.
Does not compile.	Does not compile.	An exception is thrown at runtime.

Question No : 39

Given:

```
11. public static Collection get() {
12. Collection sorted = new LinkedList();
13. sorted.add("B"); sorted.add("C"); sorted.add("A");
14. return sorted;
15. }
16. public static void main(String[] args) {
17. for (Object obj: get()) {
18. System.out.print(obj + ", ");
19. }
20. }
```

What is the result?

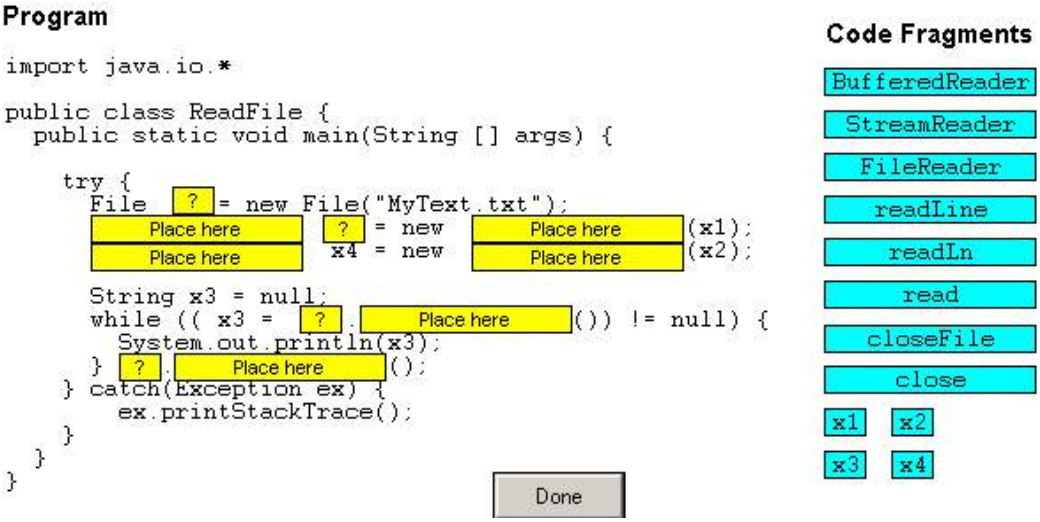
A. Compilation fails.
B. B, C, A,
C. An exception is thrown at runtime.
D. The code runs with no output.
E. A, B, C,

Answer: B

Question No : 40 DRAG DROP

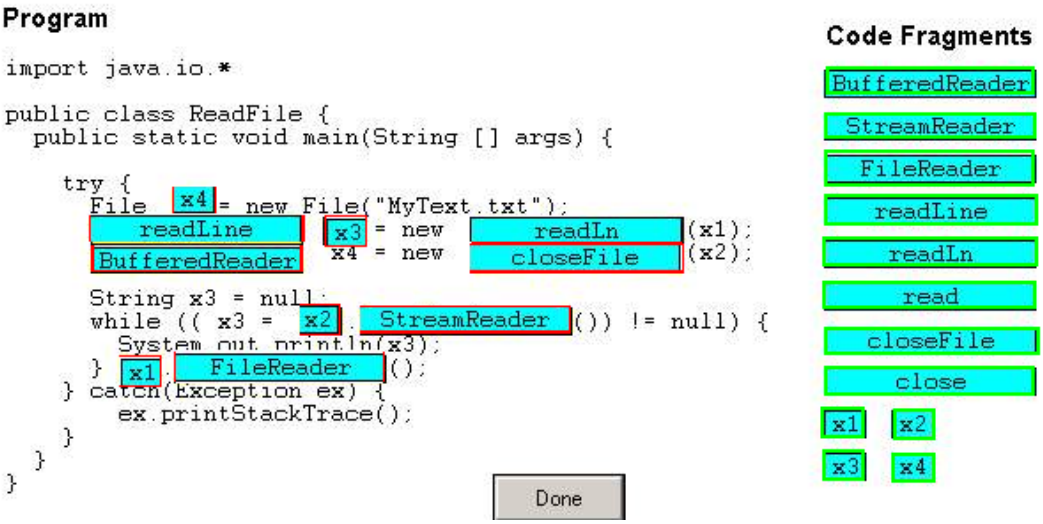
Click the Task button.

Place the Fragments into the program, so that the program will get lines from a text file, display them, and then close all the resources.



Answer:

Place the Fragments into the program, so that the program will get lines from a text file, display them, and then close all the resources.



Question No : 41 DRAG DROP

Click the Task button.

Given:

```
class A {
  String name = "A";
  String getName() {
    return name;
  }
  String greeting(){
    return "class A";
  }
}
class B extends A {
  String name = "B";
  String greeting() {
    return "class B";
  }
}
public class Client {
  public static void main( String[] args ) {
    A a = new A();
    A b = new B();
    System.out.println(a.greeting() + " has name " + a.getName());
    System.out.println(b.greeting() + " has name " + b.getName());
  }
}
```

Answer:

Given:

```
class A {
  String name = "A";
  String getName() {
    return name;
  }
  String greeting(){
    return "class A";
  }
}
class B extends A {
  String name = "B";
  String greeting() {
    return "class B";
  }
}
public class Client {
  public static void main( String[] args ) {
    A a = new A();
    A b = new B();
    System.out.println(a.greeting() + " has name " + a.getName());
    System.out.println(b.greeting() + " has name " + b.getName());
  }
}
```