

Exam : SUN 310-055

Title : Sun Certified Programmer for the
Java 2 Platform.SE 5.0

Update : Demo

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; }
- F. class Man { private BestFriend; }

Correct: D

2. Given: 1. package test; 2. 3. class Target { 4. public String name = "hello"; 5. } What can directly access and change the value of the variable name?

- A. any class
- B. only the Target class
- C. any class in the test package
- D. any class that extends Target

Correct: C

3. Click the Task button.

Replace two of the Modifiers that appear in the Single class to make the code compile. Note: Three modifiers will not be used and four modifiers in the code will remain unchanged.

Code

```
public class Single {  
    private static Single instance;  
    public static Single getInstance() {  
        if (instance == null) instance = create();  
        return instance;  
    }  
    private Single() { }  
    protected Single create() { return new Single(); }  
}  
  
class SingleSub extends Single {  
}
```

Modifiers

final

protected

private

abstract

static

Done

Correct:

Green choice1---->Yellow Choice1

Green choice2---->Yellow Choice2

Green choice3---->Yellow Choice3

Green choice5---->Yellow Choice5

Green choice4---->Yellow Choice6

Green choice1---->Yellow Choice4

4. 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.

Correct:A

5.Given: 10. interface Jumper { public void jump(); } ... 20. class Animal {} ... 30. class Dog extends Animal { 31. Tail tail; 32. } ... 40. class Beagle extends Dog implements Jumper{ 41. public void jump() {} 42. } ... 50. class Cat implements Jumper{ 51. public void jump() {} 52. } Which three are true? (Choose three.)

- A.Cat is-a Animal
- B.Cat is-a Jumper
- C.Dog is-a Animal
- D.Dog is-a Jumper
- E.Cat has-a Animal
- F.Beagle has-a Tail
- G.Beagle has-a Jumper

Correct:B C F

6.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.

Correct:C

7.Given: 10. interface A { public int getValue(); } 11. class B implements A { 12. public int getValue() { return 1; } 13. } 14. class C extends B { 15. // insert code here 16. } Which three code fragments, inserted individually at line 15, make use of polymorphism? (Choose three.)

- A.public void add(C c) { c.getValue(); }
- B.public void add(B b) { b.getValue(); }
- C.public void add(A a) { a.getValue(); }
- D.public void add(A a, B b) { a.getValue(); }
- E.public void add(C c1, C c2) { c1.getValue(); }

Correct:B C D

8.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 class is fully encapsulated.
- B.The code demonstrates polymorphism.
- C.The ownerName variable breaks encapsulation.
- D.The cardID and limit variables break polymorphism.

E.The setCardInformation method breaks encapsulation.

Correct:C

9.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); }

Correct:C D

10.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;

Correct:A E F

11.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.

Correct:D E

12.Given: 1. public class TestOne { 2. public static void main (String[] args) throws Exception { 3. Thread.sleep(3000); 4. System.out.println("sleep"); 5. } 6. } What is the result?

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

Correct:C

13.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".

Correct:E

14.Click the Exhibit button. Which two are possible results? (Choose two.)

```
1. public class Threadsl {
2.     int x = 0;
3.     public class Runner implements Runnable
4.     {
5.         public void run() {
6.             int current = 0;
7.             for(int i = 0; i < 4; i++) {
8.                 current = x;
9.                 System.out.print(current + ", ");
10.                x = current + 2;
11.            }
12.        }
13.    }
14.    public static void main(String[] args) {
15.        new Threadsl().go();
16.    }
17.    public void go() {
18.        Runnable r1 = new Runner();
19.        new Thread(r1).start();
20.        new Thread(r1).start();
21.    }
22. }
23. }
```

- A.0, 2, 4, 4, 6, 8, 10, 6,
B.0, 2, 4, 6, 8, 10, 2, 4,
C.0, 2, 4, 6, 8, 10, 12, 14,
D.0, 0, 2, 2, 4, 4, 6, 6, 8, 8, 10, 10, 12, 12, 14, 14,
E.0, 2, 4, 6, 8, 10, 12, 14, 0, 2, 4, 6, 8, 10, 12, 14,

Correct:A C

15.Click the Exhibit button. What is the result?

```

1. class Computation extends Thread {
2.
3.     private int num;
4.     private boolean isComplete;
5.     private int result;
6.
7.     public Computation(int num) { this.num
= num; }
8.
9.     public synchronized void run() {
10.         result = num * 2;
11.         isComplete = true;
12.         notify();
13.     }
14.
15.     public synchronized int getResult() {
16.         while (!isComplete) {
17.             try {
18.                 wait();
19.             } catch (InterruptedException e)
{}
20.         }
21.         return result;
22.     }
23.
24.     public static void main(String[] args)
{
25.         Computation[] computations = new
Computation[4];
26.         for (int i = 0; i <
computations.length; i++) {
27.             computations[i] = new
Computation(i);
28.             computations[i].start();
29.         }
30.         for (Computation c : computations)
31.             System.out.print(c.getResult() + "
");
32.     }
33. }

```

- A.The code will deadlock.
- B.The code may run with no output.
- C.An exception is thrown at runtime.
- D.The code may run with output "0 6".
- E.The code may run with output "2 0 6 4".
- F.The code may run with output "0 2 4 6".

Correct:F

16.Click the Task button.

Place a Class on each method that is declared in the class:

Method Name	Class
run()	java.lang.Object
wait()	java.lang.Thread
notify()	
sleep()	
start()	
join()	

Done

Correct:

Green choice1---->Yellow Choice1

Green choice1---->Yellow Choice2

Green choice2---->Yellow Choice3

Green choice2---->Yellow Choice4

Green choice2---->Yellow Choice5

Green choice2---->Yellow Choice6

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

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

Correct: D F

18. Given: public class NamedCounter { private final String name; private int count; public NamedCounter(String name) { this.name = name; } public String getName() { return name; } public void increment() { count++; } public int getCount() { return count; } public void reset() { count = 0; } } Which three changes should be made to adapt this class to be used safely by multiple threads? (Choose three.)

- A. declare reset() using the synchronized keyword
- B. declare getName() using the synchronized keyword
- C. declare getCount() using the synchronized keyword
- D. declare the constructor using the synchronized keyword
- E. declare increment() using the synchronized keyword

Correct: A C E

19. Click the Task button.

Place the code in the appropriate places such that this program will always output [1, 2].

```
import java.util.*;

public class MyInt Place here Place here {
    public static void main(String[] args) {
        ArrayList<MyInt> list = new ArrayList<MyInt>();
        list.add(new MyInt(2));
        list.add(new MyInt(1));
        Collections.sort(list);
        System.out.println(list);
    }
    private int i;
    public MyInt(int i) { this.i = i; }
    public String toString() { return Integer.toString(i); }

    Place here int Place here {
        MyInt i2 = (MyInt)o;
        return Place here ;
    }
}
```

Code

<code>implements</code>	<code>extends</code>	<code>Sortable</code>	<code>Object</code>	<code>Comparable</code>
<code>protected</code>	<code>public</code>	<code>i - i2.i</code>	<code>i</code>	<code>i2.i - i</code>
<code>compare(MyInt o, MyInt i2)</code>		<code>compare(Object o, Object i2)</code>		
<code>sort(Object o)</code>		<code>sort(MyInt o)</code>		
<code>compareTo(MyInt o)</code>		<code>compareTo(Object o)</code>		

Correct:

Green choice1---->Yellow Choice1

Green choice5---->Yellow Choice2

Green choice3---->Yellow Choice5

Green choice16---->Yellow Choice3

Green choice10---->Yellow Choice4

20. Given: 1. `import java.util.*;` 2. `public class WrappedString {` 3. `private String s;` 4. `public WrappedString(String s) { this.s = s; }` 5. `public static void main(String[] args) {` 6. `HashSet hs = new HashSet();` 7. `WrappedString ws1 = new WrappedString("aardvark");` 8. `WrappedString ws2 = new WrappedString("aardvark");` 9. `String s1 = new String("aardvark");` 10. `String s2 = new String("aardvark");` 11. `hs.add(ws1); hs.add(ws2); hs.add(s1); hs.add(s2);` 12. `System.out.println(hs.size()); }` } What is the result?

- A.0
- B.1
- C.2
- D.3
- E.4
- F.Compilation fails.
- G.An exception is thrown at runtime.

Correct:D

21. 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();
    }
}

```

Code

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

Correct:

- Green choice15---->Yellow Choice1
- Green choice11---->Yellow Choice6
- Green choice7---->Yellow Choice4
- Green choice10---->Yellow Choice2
- Green choice14---->Yellow Choice7
- Green choice12---->Yellow Choice8
- Green choice13---->Yellow Choice3
- Green choice16---->Yellow Choice5

22.Click the Task button.

Place the correct description of the compiler output on the code fragments to be inserted at lines 4 and 5. The same compiler output may be used more than once.

```
1. import java.util.*;
2. public class X {
3.     public static void main(String[] args) {
4.         // insert code here
5.         // insert code here
6.     }
7.     public static void foo(List<Object> list) {
8.     } }
```

Code

```
ArrayList<String> x1 = new ArrayList<String>();
foo(x1);
```

```
ArrayList<Object> x2 = new ArrayList<String>();
foo(x2);
```

```
ArrayList<Object> x3 = new ArrayList<Object>();
foo(x3);
```

```
ArrayList x4 = new ArrayList();
foo(x4);
```

Compiler Output

Compilation succeeds.

Compilation fails due to an error in the first statement.

Compilation of the first statement succeeds, but compilation fails due to an error in the second statement.

Done

Correct:

Green choice2---->Yellow Choice1

Green choice1---->Yellow Choice2

Green choice3---->Yellow Choice3

Green choice3---->Yellow Choice4

23. Given: 1. public class Drink implements Comparable { 2. public String name; 3. public int compareTo(Object o) { 4. return 0; 5. } 6. } and: 20. Drink one = new Drink(); 21. Drink two = new Drink(); 22. one.name= "Coffee"; 23. two.name= "Tea"; 24. TreeSet set = new TreeSet(); 25. set.add(one); 26. set.add(two); A programmer iterates over the TreeSet and prints the name of each Drink object. What is the result?

A.Tea

B.Coffee

C.Coffee Tea

D.Compilation fails.

E.The code runs with no output.

F.An exception is thrown at runtime.

Correct:B

24. 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 {
- C. public class MinMax {
- D. public class MinMax {
- E. public class MinMax {
- F. public class MinMax {

Correct: D F

25. Given: enum Example { ONE, TWO, THREE } Which statement is true?

- A. The expressions (ONE == ONE) and ONE.equals(ONE) are both guaranteed to be true.
- B. The expression (ONE < TWO) is guaranteed to be true and ONE.compareTo(TWO) is guaranteed to be less than one.
- C. The Example values cannot be used in a raw java.util.HashMap; instead, the programmer must use a java.util.EnumMap.
- D. The Example values can be used in a java.util.SortedSet, but the set will NOT be sorted because enumerated types do NOT implement java.lang.Comparable.

Correct: A

26. Given: 1. import java.util.*; 2. public class Example { 3. public static void main(String[] args) { 4. // insert code here 5. set.add(new Integer(2)); 6. set.add(new Integer(1)); 7. System.out.println(set); 8. } 9. } Which code, inserted at line 4, guarantees that this program will output [1, 2]?

- A. Set set = new TreeSet();
- B. Set set = new HashSet();
- C. Set set = new SortedSet();
- D. List set = new SortedList();
- E. Set set = new LinkedHashSet();

Correct: A

27. 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

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

Done

Correct:

Green choice1---->Yellow Choice1

Green choice3---->Yellow Choice2

Green choice2---->Yellow Choice3

Green choice3---->Yellow Choice4

Green choice3---->Yellow Choice5

28. Given: `11. public class Key { 12. private long id1; 13. private long id2; 14. 15. // class Key methods 16. }` A programmer is developing a class Key, that will be used as a key in a standard `java.util.HashMap`. Which two methods should be overridden to assure that Key works correctly as a key? (Choose two.)

A. `public int hashCode()`

B. `public boolean equals(Key k)`

C. `public int compareTo(Object o)`

D. `public boolean equals(Object o)`

E. `public boolean compareTo(Key k)`

Correct: A D

29. Given: `11. String test = "This is a test"; 12. String[] tokens = test.split("\s"); 13. System.out.println(tokens.length);` What is the result?

A. 0

B. 1

C. 4

D. Compilation fails.

E. An exception is thrown at runtime.

Correct: D

30. Given: `12. public class Wow { 13. public static void go(short n) {System.out.print("short ");} 14. public static void go(Short n) {System.out.print("SHORT ");} 15. public static void go(Long n) {System.out.print(" LONG ");} 16. public static void main(String [] args) { 17. Short y = 6; 18. int z = 7; 19. go(y); 20. go(z); 21. } 22. }` What is the result?

A. short LONG

B. SHORT LONG

C. Compilation fails.

D. An exception is thrown at runtime.

Correct: C