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

2. 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

3. 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. }

<img src='./scjp/3.png'></img>
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

4. 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

5. 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

6. 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

7. 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

8. 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

9. 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

10. Click the Exhibit button.

<img src='./scjp/10.png'></img>
Which three statements are true? (Choose three.)
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

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

12. 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

13. Click the Exhibit button.

<img src='./scjp/13.png'></img>
Which statement is true about the classes and interfaces in the exhibit?
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

14. 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

15. 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

16. 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

17. 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

18. 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

19. 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

20. 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[\.] +"; Ans: E

21. 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

22. 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

23. 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

24. 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

25. Click the Exhibit button.

<img src='./scjp/25.png'></img>
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

26. 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

27. 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

28. 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

29.
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

30. 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

31. 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

32. 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

33. 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

34. 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

35. 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

36. Given:
1. 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

37. 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

38. 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 Ans: D

39. 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

40. 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

41. 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

42. 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

43
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

44. 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

45.
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

46.
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

47.
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

48.
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

49.
Click the Exhibit button.

<img src='./scjp/49.png'></img>
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.)
ActualTests.com
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

50.
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

51.
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

52.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

53. 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

54. Click the Exhibit button.

<img src='./scjp/54.png'></img>
What is the output if the main() method is run?
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

55.
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

56.
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

57. DRAG DROP

<img src='./scjp/57.png'></img>
Click the Task button.
Answer:

58. DRAG DROP

<img src='./scjp/58.png'></img>
Click the Task button.
Answer:

59. DRAG DROP
Click the Task button.

<img src='./scjp/59.png'></img>

60. DRAG DROP
Click the Task button.

<img src='./scjp/60.png'></img>

Answer:

61. 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

62.
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 isDec 14, 2000.
C. An exception is thrown at runtime.
D. Compilation fails because of an error in line 13.
Answer: D

63.
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

64.
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

65.
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

66. 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

67.
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

68.
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

69.
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

70. 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

71. 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

72. 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

73. 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

74. 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

75.
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

76.
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

77.
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?
A. Compilation fails.
B. Cannot add Toppings
C. The code runs with no output.
D. A NullPointerException is thrown in Line 4.
Answer: A

78.
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

79. 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 line2 in Salmon.java
B. add import animals.fish.*; at line2 in GrizzlyBear.java
C. add import animals.fish.Salmon.*; at line2 in GrizzlyBear.java
D. add import animals.mammals.GrizzlyBear.*; at line2 in Salmon.java
Answer: B

80. 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

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

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

82. 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

83. 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

84. 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

85. 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

86. 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

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

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

88.
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

89.
Click the Exhibit button.
Given:
25. A a = new A();
26. System.out.println(a.doit(4, 5));
What is the result?
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

90.
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

91.
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

92. 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

93. 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

94. 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

95. Click the Exhibit button. What is the result?
A. 4321
B. 0000
C. An exception is thrown at runtime.
D. Compilation fails because of an error in line 18.
Answer: D

96.
Given:
3. import java.util.*;
4. public class Mapit {
5. public static void main(String[] args) {
6. Set<Integer> set = new HashSet<Integer>();
7. Integer i1 = 45;
8. Integer i2 = 46;
9. set.add(i1);
10. set.add(i1);
11. set.add(i2); System.out.print(set.size() + " ");
12. set.remove(i1); System.out.print(set.size() + " ");
13. i2 = 47;
14. set.remove(i2); System.out.print(set.size() + " ");
15. }
16. }
What is the result?
A. 2 1 0
B. 2 1 1
C. 3 2 1
D. 3 2 2
E. Compilation fails.
F. An exception is thrown at runtime.
Answer: B

97. 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

98. 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

99. Given:
12. import java.util.*;
13. public class Explorer3 {
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. subs.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: F

100. 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

101. Given:
12. import java.util.*;
13. public class Explorer1 {
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(609);
21. System.out.println(s + " " + subs);
22. }
23. }
What is the result?
A. Compilation fails.
B. An exception is thrown at runtime.
C. [608, 609, 610, 612] [608, 610]
D. [608, 609, 610, 612] [608, 609, 610]
E. [606, 608, 609, 610, 612] [608, 610]
F. [606, 608, 609, 610, 612] [608, 609, 610]
Answer: F

102. Given:
23. Object [] myObjects = {
24. new Integer(12),
25. new String("foo"),
26. new Integer(5),
27. new Boolean(true)
28. };
29. Arrays.sort(myObjects);
30. for(int i=0; i<myObjects.length; i++) {
31. System.out.print(myObjects[i].toString());
32. System.out.print(" ");
33. }
What is the result?
A. Compilation fails due to an error in line 23.
B. Compilation fails due to an error in line 29.
C. A ClassCastException occurs in line 29.
D. A ClassCastException occurs in line 31.
E. The value of all four objects prints in natural
order.
Answer: C

103. Given:
1. public class Donkey {
2. public static void main(String[] args) {
3. boolean assertsOn = false;
4. assert (assertsOn) : assertsOn = true;
5. if(assertsOn) {
6. System.out.println("assert is on");
7. }
8. }
9. }
If class Donkey is invoked twice, the first time
without assertions enabled, and the second
time
with assertions enabled, what are the results?
A. no output
B. no output
assert is on
C. assert is on
D. no output
An AssertionError is thrown.
E. assert is on
An AssertionError is thrown.
Answer: D

104. Given:
11. Float pi = new Float(3.14f);
12. if (pi > 3) {
13. System.out.print("pi is bigger than 3. ");
14. }
15. else {
16. System.out.print("pi is not bigger than 3. ");
17. }
18. finally {
19. System.out.println("Have a nice day.");
20. }
What is the result?
A. Compilation fails.
B. pi is bigger than 3.
C. An exception occurs at runtime.
D. pi is bigger than 3. Have a nice day.
E. pi is not bigger than 3. Have a nice day.
Answer: A

105. Given:
11. public static void main(String[] args) {
12. try {
13. args = null;
14. args[0] = "test";
15. System.out.println(args[0]);
16. } catch (Exception ex) {
17. System.out.println("Exception");
18. } catch (NullPointerException npe) {
19.
System.out.println("NullPointerException");
20. }
21. }
What is the result?
A. test
B. Exception
C. Compilation fails.
D. NullPointerException
Answer: C

106. Given:
22. public void go() {
23. String o = "";
24. z:
25. for(int x = 0; x < 3; x++) {
26. for(int y = 0; y < 2; y++) {
27. if(x==1) break;
28. if(x==2 && y==1) break z;
29. o = o + x + y;
30. }
31. }
32. System.out.println(o);
33. }
What is the result when the go() method is
invoked?
A. 00
B. 0001
C. 000120
D. 00012021
E. Compilation fails.
F. An exception is thrown at runtime.
Answer: C

107. Given:
12. public class Test {
13. public enum Dogs {collie, harrier};
14. public static void main(String [] args) {
15. Dogs myDog = Dogs.collie;
16. switch (myDog) {
17. case collie:
18. System.out.print("collie ");
19. case harrier:
20. System.out.print("harrier ");
21. }
22. }
23. }
What is the result?
A. collie
B. harrier
C. Compilation fails.
D. collie harrier
E. An exception is thrown at runtime.
Answer: D

108. Click the Exhibit button. Given:

<img src='./scjp/108.png'></img>
31. public void method() {
32. A a = new A();
33. a.method1();
34. }
Which statement is true if a TestException is
thrown on line 3 of class B?

A. Line 33 must be called within a try block.
B. The exception thrown by method1 in class A is not required to be caught.
C. The method declared on line 31 must be declared to throw a RuntimeException.
D. On line 5 of class A, the call to method2 of class B does not need to be placed in a try/catch
block.
Answer: B

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

110. 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

111. Given:
1. public class Venus {
2. public static void main(String[] args) {
3. int [] x = {1,2,3};
4. int y[] = {4,5,6};
5. new Venus().go(x,y);
6. }
7. void go(int[]... z) {
8. for(int[] a : z)
9. System.out.print(a[0]);
10. }
11. }
What is the result?
A. 1
B. 12
C. 14
D. 123
E. Compilation fails.
F. An exception is thrown at runtime.
Answer: C

112. 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

113. Given:

11. class X { public void foo() {
System.out.print("X "); } }
12.
13. public class SubB extends X {
14. public void foo() throws RuntimeException
{
15. super.foo();
16. if (true) throw new RuntimeException();
17. System.out.print("B ");
18. }
19. public static void main(String[] args) {
20. new SubB().foo();
21. }
22. }
What is the result?
A. X, followed by an Exception.
B. No output, and an Exception is thrown.
C. Compilation fails due to an error on line 14.
D. Compilation fails due to an error on line 16.
E. Compilation fails due to an error on line 17.
F. X, followed by an Exception, followed by B.
Answer: A

114. DRAG DROP

Click the Task button.

<img src='./scjp/114.png'></img>

Answer:

115. DRAG DROP

Click the Task button.

<img src='./scjp/115.png'></img>

Answer:

116. DRAG DROP

Click the Task button.

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Answer:

117. DRAG DROP

Click the Task button.

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Answer:

118. DRAG DROP

Click the Task button.

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Answer:

119. DRAG DROP

Click the Task button.

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Answer:

120. 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

121. A company has a business application that provides its users with many different reports: receivables reports, payables reports, revenue projects, and so on. The company has just purchased some new, state-of-the-art, wireless printers, and a programmer has been assigned the
task of enhancing all of the reports to use not only the company's old printers, but the new wireless printers as well. When the programmer starts looking into the application, the programmer
discovers that because of the design of the application, it is necessary to make changes to each
report to support the new printers. Which two design concepts most likely explain this situation?
(Choose two.)

A. Inheritance
B. Low cohesion
C. Tight coupling
D. High cohesion

E. Loose coupling
F. Object immutability
Answer: B,C

122. 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

123. 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

124. Given:

3. class Employee {
4. String name; double baseSalary;
5. Employee(String name, double baseSalary) {
6. this.name = name;
7. this.baseSalary = baseSalary;
8. }
9. }
10. public class SalesPerson extends Employee {
11. double commission;
12. public SalesPerson(String name, double baseSalary, double commission) {
13. // insert code here
14. }
15. }
Which two code fragments, inserted independently at line 13, will compile? (Choose two.)
A. super(name, baseSalary);
B. this.commission = commission;
C. super();
this.commission = commission;
D. this.commission = commission;
super();
E. super(name, baseSalary);
this.commission = commission;
F. this.commission = commission;
super(name, baseSalary);
G. super(name, baseSalary, commission);
Answer: A,E

125. A team of programmers is reviewing a proposed API for a new utility class. After some discussion,
they realize that they can reduce the number of methods in the API without losing any functionality. If they implement the new design, which two OO principles will they be promoting?

A. Looser coupling
B. Tighter coupling
C. Lower cohesion
D. Higher cohesion
E. Weaker encapsulation
F. Stronger encapsulation
Answer: A

126. 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

127. Given:

5. class Building { }
6. public class Barn extends Building {
7. public static void main(String[] args) {
8. Building build1 = new Building();
9. Barn barn1 = new Barn();
10. Barn barn2 = (Barn) build1;
11. Object obj1 = (Object) build1;
12. String str1 = (String) build1;
13. Building build2 = (Building) barn1;
14. }
15. }
Which is true?
A. If line 10 is removed, the compilation succeeds.
B. If line 11 is removed, the compilation succeeds.
C. If line 12 is removed, the compilation succeeds.
D. If line 13 is removed, the compilation succeeds.
E. More than one line must be removed for compilation to succeed.
Answer: C

128. 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.
Answer: C

129. 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. Compilation fails.
B. An exception is thrown at runtime.
C. The code executes normally and prints "foo".
D. The code executes normally, but nothing is printed.
Answer: B

130. Which two statements are true? (Choose two.)

A. It is possible for more than two threads to deadlock at once.
B. The JVM implementation guarantees that multiple threads cannot enter into a deadlocked state.

C. Deadlocked threads release once their sleep() method's sleep duration has expired.
D. Deadlocking can occur only when the wait(), notify(), and notifyAll() methods are used incorrectly.
E. It is possible for a single-threaded application to deadlock if synchronized blocks are used
incorrectly.
F. If a piece of code is capable of deadlocking, you cannot eliminate the possibility of deadlocking
by inserting invocations of Thread.yield().
Answer: A,F

131. 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

132. Given classes defined in two different files:

1. package util;
2. public class BitUtils {
3. public static void process(byte[] b) { /* more code here */ }
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. util.BitUtils.process(bytes);
D. SomeApp cannot use methods in BitUtils.
E. import util.BitUtils.*; process(bytes);
Answer: C

133. 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

134. Given:

11. class Snoochy {
12. Boochy booch;
13. public Snoochy() { booch = new Boochy(this); }
14. }
15.
16. class Boochy {
17. Snoochy snooch;
18. public Boochy(Snoochy s) { snooch = s; }
19. } And the statements:
21. public static void main(String[] args) {
22. Snoochy snoog = new Snoochy();
23. snoog = null;
24. // more code here
25. }
Which statement is true about the objects referenced by snoog, snooch, and booch immediately
after line 23 executes?
A. None of these objects are eligible for garbage collection.
B. Only the object referenced by booch is eligible for garbage collection.
C. Only the object referenced by snoog is eligible for garbage collection.
D. Only the object referenced by snooch is eligible for garbage collection.
E. The objects referenced by snooch and booch are eligible for garbage collection.
Answer: E

135. Given:

3. public class Batman {
4. int squares = 81;
5. public static void main(String[] args) {
6. new Batman().go();
7. }
8. void go() {
9. incr(++squares);
10. System.out.println(squares);
11. }
12. void incr(int squares) { squares += 10; }
13. }
What is the result?
A. 81
B. 82
C. 91
D. 92
E. Compilation fails.
F. An exception is thrown at runtime.
Answer: B

136. 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

137. 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

138. Click the Exhibit button.
What is the output of the program shown in the exhibit?

<img src='./scjp/138.png'></img>
A. 300-100-100-100-100
B. 300-300-100-100-100
C. 300-300-300-100-100
D. 300-300-300-300-100
Answer: B

139. Given the following directory structure:
bigProject |--source | |--Utils.java | |--classes |-- And the
following command line invocation: javac -d classes source/Utils.java Assume the current directory
is bigProject, what is the result?

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

140. Given:

```
3. interface Fish { }
4. class Perch implements Fish { }
5. class Walleye extends Perch { }
6. class Bluegill { }
7. public class Fisherman {
8. public static void main(String[] args) {
9. Fish f = new Walleye();
10. Walleye w = new Walleye();
11. Bluegill b = new Bluegill();
12. if(f instanceof Perch) System.out.print("f-p ");
13. if(w instanceof Fish) System.out.print("w-f ");
14. if(b instanceof Fish) System.out.print("b-f ");
15. }
16. }
```

What is the result?
A. w-f
B. f-p w-f
C. w-f b-f
D. f-p w-f b-f
E. Compilation fails.
F. An exception is thrown at runtime.
Answer: B

141. 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

142. Given:

```
11. public void testIfA() {
12. if (testIfB("True")) {
13. System.out.println("True");
14. } else {
15. System.out.println("Not true");
16. }
17. }
18. public Boolean testIfB(String str) {
19. return Boolean.valueOf(str);
20. }
```

What is the result when method testIfA is invoked?
A. True
B. Not true
C. An exception is thrown at runtime.
D. Compilation fails because of an error at line 12.
E. Compilation fails because of an error at line 19.
Answer: A

143. Given:

```
1. public class Donkey {
2. public static void main(String[] args) {
3. boolean assertsOn = false;
4. assert (assertsOn) : assertsOn = true;
5. if(assertsOn) {
6. System.out.println("assert is on");
7. }
8. }
9. }
```

If class Donkey is invoked twice, the first time without assertions enabled, and the second time
with assertions enabled, what are the results?
A. no output
B. no output
assert is on
C. assert is on
D. no output
An AssertionError is thrown.
E. assert is on
An AssertionError is thrown.
Answer: D

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

145. Given:

```
22. public void go() {
23. String o = "";
24. z:
25. for(int x = 0; x < 3; x++) {
26. for(int y = 0; y < 2; y++) {
27. if(x==1) break;
28. if(x==2 && y==1) break z;
29. o = o + x + y;
30. }
31. }
32. System.out.println(o);
33. }
```

What is the result when the go() method is invoked?
A. 00
B. 0001
C. 000120
D. 00012021
E. Compilation fails.
F. An exception is thrown at runtime.
Answer: C

146. Given:

```
11. static void test() {
12. try {
13. String x = null;
14. System.out.print(x.toString() + " ");
15. }
16. finally { System.out.print("finally "); }
17. }
18. public static void main(String[] args) {
19. try { test(); }
20. catch (Exception ex) {
System.out.print("exception "); }
21. }
```

What is the result?
A. null
B. finally
C. null finally
D. Compilation fails.
E. finally exception
Answer: E

147. Given:

```
10. interface Foo {}
11. class Alpha implements Foo {}
12. class Beta extends Alpha {}
13. class Delta extends Beta {
14. public static void main( String[] args ) {
15. Beta x = new Beta();
16. // insert code here
17. }
18. }
```

Which code, inserted at line 16, will cause a java.lang.ClassCastException?
A. Alpha a = x;
B. Foo f = (Delta)x;
C. Foo f = (Alpha)x;
D. Beta b = (Beta)(Alpha)x;
Answer: B

148. Given:

```
33. try {
34. // some code here
35. } catch (NullPointerException e1) {
36. System.out.print("a");
37. } catch (Exception e2) {
```

38. System.out.print("b");
39. } finally {
40. System.out.print("c");
41. }
If some sort of exception is thrown at line 34, which output is possible?
A. a
B. b
C. c
D. ac
E. abc
Answer: D

149. Given:

11. public class Test {
12. public enum Dogs {collie, harrier, shepherd};
13. public static void main(String [] args) {
14. Dogs myDog = Dogs.shepherd;
15. switch (myDog) {
16. case collie:
17. System.out.print("collie ");
18. case default:
19. System.out.print("retriever ");
20. case harrier:
21. System.out.print("harrier ");
22. }
23. }
24. }
What is the result?
A. harrier
B. shepherd
C. retriever
D. Compilation fails.
E. retriever harrier
F. An exception is thrown at runtime.
Answer: D

150. Click the Exhibit button. Given: ClassA a = new ClassA(); a.methodA(); What is the result?

<img src='./scjp/150.png'></img>
A. Compilation fails.
B. ClassC is displayed.
C. The code runs with no output.
D. An exception is thrown at runtime.
Answer: D

151. Given:

11. static void test() throws RuntimeException {
12. try {
13. System.out.print("test ");
14. throw new RuntimeException();
15. }
16. catch (Exception ex) {
System.out.print("exception "); }
17. }
18. public static void main(String[] args) {
19. try { test(); }
20. catch (RuntimeException ex) {
System.out.print("runtime "); }
21. System.out.print("end ");
22. }
What is the result?
A. test end
B. Compilation fails.
C. test runtime end
D. test exception end
E. A Throwable is thrown by main at runtime.
Answer: D

152. 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

153. Given:

10. class Line {
11. public static class Point {}
12. }
13.
14. class Triangle {
15. // insert code here
16. }
Which code, inserted at line 15, creates an instance of the Point class defined in Line?
A. Point p = new Point();
B. Line.Point p = new Line.Point();
C. The Point class cannot be instatiated at line 15.
D. Line l = new Line() ; l.Point p = new l.Point();
Answer: B

154. Given:

10. class Nav{
11. public enum Direction { NORTH, SOUTH, EAST, WEST }
12. }
13. public class Sprite{
14. // insert code here
15. }
Which code, inserted at line 14, allows the Sprite class to compile?
A. Direction d = NORTH;
B. Nav.Direction d = NORTH;
C. Direction d = Direction.NORTH;
D. Nav.Direction d = Nav.Direction.NORTH;
Answer: D

155. Given:

10. interface Data { public void load(); }
11. abstract class Info { public abstract void load(); }
Which class correctly uses the Data interface and Info class?
A. public class Employee extends Info implements Data {
public void load() { /*do something*/ }
}
B. public class Employee implements Info extends Data {
public void load() { /*do something*/ }
}
C. public class Employee extends Info implements Data {
public void load(){ /*do something*/ }
public void Info.load(){ /*do something*/ }
}
D. public class Employee implements Info extends Data {
public void Data.load(){ /*do something*/ }
public void load(){ /*do something*/ }
}
E. public class Employee implements Info extends Data {
public void load(){ /*do something*/ }
public void Info.load(){ /*do something*/ }
}
F. public class Employee extends Info implements Data{
public void Data.load() { /*do something*/ }
public void Info.load() { /*do something*/ }
}
Answer: A

156. Given:

11. public class Rainbow {
12. public enum MyColor {
13. RED(0xff0000), GREEN(0x00ff00), BLUE(0x0000ff);
14. private final int rgb;
15. MyColor(int rgb) { this.rgb = rgb; }
16. public int getRGB() { return rgb; }
17. };
18. public static void main(String[] args) {
19. // insert code here
20. }
21. }
Which code fragment, inserted at line 19, allows the Rainbow class to compile?
A. MyColor skyColor = BLUE;
B. MyColor treeColor = MyColor.GREEN;
C. if(RED.getRGB() < BLUE.getRGB()) { }
D. Compilation fails due to other error(s) in the code.
E. MyColor purple = new MyColor(0xff00ff);
F. MyColor purple = MyColor.BLUE + MyColor.RED;
Answer: B

157. Given:

10. class One {
11. void foo() { }
12. }
13. class Two extends One {
14. //insert method here
15. }
Which three methods, inserted individually at line 14, will correctly complete class Two? (Choose
three.)
A. int foo() { /* more code here */ }
B. void foo() { /* more code here */ }

C. public void foo() { /* more code here */ }
D. private void foo() { /* more code here */ }
E. protected void foo() { /* more code here */ }
Answer: B,C,E

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

<img src='./scjp/158.png'></img>
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

159. Given:

11. public interface A { public void m1(); }
12.
13. class B implements A { }
14. class C implements A { public void m1() { } }
15. class D implements A { public void m1(int x) { } }
16. abstract class E implements A { }
17. abstract class F implements A { public void m1() { } }
18. abstract class G implements A { public void m1(int x) { } }
What is the result?

A. Compilation succeeds.
B. Exactly one class does NOT compile.
C. Exactly two classes do NOT compile.
D. Exactly four classes do NOT compile.
E. Exactly three classes do NOT compile.
Answer: C

160. 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

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

<img src='./scjp/161.png'></img>
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

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

163. Given:

11. String test = "a1b2c3";
12. String[] tokens = test.split("\\d");
13. for(String s: tokens) System.out.print(s + " ");
What is the result?
A. a b c
B. 1 2 3
C. a1b2c3
D. a1 b2 c3
E. Compilation fails.
F. The code runs with no output.
G. An exception is thrown at runtime.
Answer: A

164. 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

165. Given:

1. public class BuildStuff {
2. public static void main(String[] args) {
3. Boolean test = new Boolean(true);
4. Integer x = 343;
5. Integer y = new BuildStuff().go(test, x);
6. System.out.println(y);
7. }
8. int go(Boolean b, int i) {
9. if(b) return (i/7);
10. return (i/49);
11. }
12. }
What is the result?
A. 7
B. 49
C. 343
D. Compilation fails.
E. An exception is thrown at runtime.

Answer: B

166. 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

167. 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<Object> hs = new HashSet<Object>();
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.
Answer: D

168. Given a class whose instances, when found in a collection of objects, are sorted by using the
compareTo() method, which two statements are true? (Choose two.)

A. The class implements java.lang.Comparable.
B. The class implements java.util.Comparator.
C. The interface used to implement sorting allows this class to define only one sort sequence.

D. The interface used to implement sorting allows this class to define many different sort sequences.
Answer: A,C

169. 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();
Answer: A

170. 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

171. DRAG DROP

Click the Task button.

<img src='./scjp/171.png'></img>
Answer:

172. DRAG DROP

Click the Task button.

<img src='./scjp/172.png'></img>

Answer:

173. DRAG DROP

Click the Task button.

<img src='./scjp/173.png'></img>

Answer:

174. DRAG DROP

Click the Task button.

<img src='./scjp/174.png'></img>

Answer:

175. DRAG DROP

Click the Task button.

<img src='./scjp/175.png'></img>

Answer:

176. DRAG DROP

Click the Task button.

<img src='./scjp/176.png'></img>

Answer:

177. Given:
1. class TestException extends Exception { }
2. class A {
3. public String sayHello(String name) throws TestException {
4. if(name == null) throw new TestException();
5. return "Hello " + name;
6. }
7. }
8. public class TestA {
9. public static void main(String[] args) {
10. new A().sayHello("Aiko");
11. }
12. }
Which statement is true?
A. Compilation succeeds.
B. Class A does not compile.
C. The method declared on line 9 cannot be modified to throw TestException.
D. TestA compiles if line 10 is enclosed in a try/catch block that catches TestException.
Answer: D

178. 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

179. Given:

3. public class Breaker {
4. static String o = "";
5. public static void main(String[] args) {
6. z:
7. o = o + 2;
8. for(int x = 3; x < 8; x++) {
9. if(x==4) break;
10. if(x==6) break z;
11. o = o + x;
12. }
13. System.out.println(o);
14. }
15. }
What is the result?
A. 23
B. 234
C. 235
D. 2345
E. 2357
F. 23457
G. Compilation fails.
Answer: G

180. Given:

5. class A {
6. void foo() throws Exception { throw new Exception(); }
7. }
8. class SubB2 extends A {
9. void foo() { System.out.println("B "); }
10. }
11. class Tester {
12. public static void main(String[] args) {
13. A a = new SubB2();
14. a.foo();
15. }
16. }
What is the result?
A. B
B. B, followed by an Exception.
C. Compilation fails due to an error on line 9.
D. Compilation fails due to an error on line 14.
E. An Exception is thrown with no other output.
Answer: D

181. 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

182. Given:

1. public class Mule {
2. public static void main(String[] args) {
3. boolean assert = true;
4. if(assert) {
5. System.out.println("assert is true");
6. }
7. }
8. }
Which command-line invocations will compile?
A. javac Mule.java
B. javac -source 1.3 Mule.java
C. javac -source 1.4 Mule.java
D. javac -source 1.5 Mule.java
Answer: B

183. Given:

11. static void test() {
12. try {
13. String x = null;
14. System.out.print(x.toString() + " ");
15. }
16. finally { System.out.print("finally "); }
17. }
18. public static void main(String[] args) {
19. try { test(); }
20. catch (Exception ex) {
System.out.print("exception "); }
21. }
What is the result?
A. null
B. finally
C. null finally
D. Compilation fails.
E. finally exception
Answer: E

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

185. 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

186. Given:

11. static void test() throws RuntimeException
{
12. try {
13. System.out.print("test ");
14. throw new RuntimeException();
15. }
16. catch (Exception ex) {
System.out.print("exception "); }
17. }
18. public static void main(String[] args) {
19. try { test(); }
20. catch (RuntimeException ex) {
System.out.print("runtime "); }
21. System.out.print("end ");
22. }
What is the result?
A. test end
B. Compilation fails.
C. test runtime end
D. test exception end
E. A Throwable is thrown by main at runtime.
Answer: D

187. Given:

11. public static void main(String[] args) {
12. Integer i = new Integer(1) + new Integer(2);
13. switch(i) {
14. case 3: System.out.println("three"); break;
15. default: System.out.println("other"); break;
16. }
17. }
What is the result?
A. three
B. other
C. An exception is thrown at runtime.
D. Compilation fails because of an error on line 12.
E. Compilation fails because of an error on line 13.
F. Compilation fails because of an error on line 15.
Answer: A

188. Given:

21. class Money {
22. private String country = "Canada";
23. public String getC() { return country; }
24. }
25. class Yen extends Money {
26. public String getC() { return super.country;
}
27. }
28. public class Euro extends Money {
29. public String getC(int x) { return
super.getC(); }
30. public static void main(String[] args) {
31. System.out.print(new Yen().getC() + " " +
new Euro().getC());
32. }
33. }
What is the result?
A. Canada
B. null Canada
C. Canada null
D. Canada Canada
E. Compilation fails due to an error on line 26.
F. Compilation fails due to an error on line 29.
Answer: E

189. 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

190. Which three statements are true? (Choose three.)

A. A final method in class X can be abstract if and only if X is abstract.
B. A protected method in class X can be overridden by any subclass of X.
C. A private static method can be called only within other static methods in class X.
D. A non-static public final method in class X can be overridden in any subclass of X.
E. A public static method in class X can be called by a subclass of X without explicitly referencing
the class X.
F. A method with the same signature as a private final method in class X can be implemented in a
subclass of X.
G. A protected method in class X can be overridden by a subclass of X only if the subclass is in
the same package as X.
Answer: B,E,F

191. 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

192. 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
Answer: C

193. Click the Exhibit button. What two must the programmer do to correct the compilation errors?
(Choose two.)

A. insert a call to this() in the Car constructor
B. insert a call to this() in the MeGo constructor
C. insert a call to super() in the MeGo constructor
D. insert a call to super(vin) in the MeGo constructor
E. change the wheelCount variable in Car to protected
F. change line3 in the MeGo class to super.wheelCount = 3;
Answer: D,E

194. A team of programmers is involved in reviewing a proposed design for a new utility class. After
some discussion, they realize that the current design allows other classes to access methods in
the utility class that should be accessible only to methods within the utility class itself. What design
issue has the team discovered?
A. Tight coupling
B. Low cohesion
C. High cohesion
D. Loose coupling
E. Weak encapsulation
F. Strong encapsulation
Answer: E

195. Given:

5. class Thingy { Meter m = new Meter(); }
6. class Component { void go() {
System.out.print("c"); } }
7. class Meter extends Component { void go() {
System.out.print("m"); } }
8.
9. class DeluxeThingy extends Thingy {
10. public static void main(String[] args) {
11. DeluxeThingy dt = new DeluxeThingy();
12. dt.m.go();
13. Thingy t = new DeluxeThingy();
14. t.m.go();
15. }
16. }
Which two are true? (Choose two.)
A. The output is mm.
B. The output is mc.
C. Component is-a Meter.
D. Component has-a Meter.
E. DeluxeThingy is-a Component.
F. DeluxeThingy has-a Component.
Answer: A,F

196. 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
Answer: B,C,F

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

A. Value is: 8
B. Compilation fails.
C. Value is: 12
D. Value is: -12
E. The code runs with no output.
F. An exception is thrown at runtime.
Answer: A

198. Given a valid DateFormat object named df, and
16. Date d = new Date(0L);
17. String ds = "December 15, 2004";
18. // insert code here What updates d's value with the date represented by ds?
A. 18. d = df.parse(ds);
B. 18. d = df.getDate(ds);
C. 18. try {
19. d = df.parse(ds);
20. } catch(ParseException e) { };
D. 18. try {
19. d = df.getDate(ds);
20. } catch(ParseException e) { };

Answer: C

199. Which two scenarios are NOT safe to replace a StringBuffer object with a StringBuilder object?
(Choose two.)

A. When using versions of Java technology earlier than 5.0.
B. When sharing a StringBuffer among multiple threads.
C. When using the java.io class StringBufferInputStream.
D. When you plan to reuse the StringBuffer to build more than one string.
Answer: A,B

200. Given:

11. String test = "a1b2c3";
12. String[] tokens = test.split("\\d");
13. for(String s: tokens) System.out.print(s + " ");
What is the result?
A. a b c
B. 1 2 3
C. a1b2c3
D. a1 b2 c3
E. Compilation fails.
F. The code runs with no output.
G. An exception is thrown at runtime.
Answer: A

201. Given:

1. public class TestString3 {
2. public static void main(String[] args) {
3. // insert code here
5. System.out.println(s);
6. }
7. }

Which two code fragments, inserted independently at line 3, generate the output 4247? (Choose
two.)

A. String s = "123456789";
s = (s-"123").replace(1,3,"24") - "89";
B. StringBuffer s = new StringBuffer("123456789");
s.delete(0,3).replace(1,3,"24").delete(4,6);
C. StringBuffer s = new StringBuffer("123456789");
s.substring(3,6).delete(1,3).insert(1, "24");
D. StringBuilder s = new StringBuilder("123456789");

s.substring(3,6).delete(1,2).insert(1, "24");
E. StringBuilder s = new
StringBuilder("123456789");
s.delete(0,3).delete(1,3).delete(2,5).insert(1,
"24");
Answer: B,E

202. 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

203. Which statement is true?

A. A class's finalize() method CANNOT be
invoked explicitly.
B. super.finalize() is called implicitly by any
overriding finalize() method.
C. The finalize() method for a given object is
called no more than once by the garbage
collector.
D. The order in which finalize() is called on two
objects is based on the order in which the two
objects became finalizable.
Answer: C

204. 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

205. 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

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

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

207. 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.cust
om");
Answer: D,E

208. Given:

1. interface DoStuff2 {
2. float getRange(int low, int high); }
3.
4. interface DoMore {
5. float getAvg(int a, int b, int c); }
6.
7. abstract class DoAbstract implements
DoStuff2, DoMore { }
8.
9. class DoStuff implements DoStuff2 {
10. public float getRange(int x, int y) { return
3.14f; } }
11.
12. interface DoAll extends DoMore {
13. float getAvg(int a, int b, int c, int d); }
What is the result?
A. The file will compile without error.
B. Compilation fails. Only line 7 contains an
error.
C. Compilation fails. Only line 12 contains an
error.
D. Compilation fails. Only line 13 contains an
error.
E. Compilation fails. Only lines 7 and 12 contain
errors.
F. Compilation fails. Only lines 7 and 13 contain
errors.
G. Compilation fails. Lines 7, 12, and 13 contain
errors.
Answer: A

209. Given:

3. interface Fish { }
4. class Perch implements Fish { }
5. class Walleye extends Perch { }
6. class Bluegill { }
7. public class Fisherman {
8. public static void main(String[] args) {
9. Fish f = new Walleye();
10. Walleye w = new Walleye();
11. Bluegill b = new Bluegill();
12. if(f instanceof Perch) System.out.print("f-p
");
13. if(w instanceof Fish) System.out.print("w-f
");
14. if(b instanceof Fish) System.out.print("b-f
");
15. }
16. }
What is the result?
A. w-f
B. f-p w-f
C. w-f b-f
D. f-p w-f b-f
E. Compilation fails.
F. An exception is thrown at runtime.
Answer: B

210. 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

211. 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

212. 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

213. Given that the elements of a
PriorityQueue are ordered according to natural
ordering, and:

```
2. import java.util.*;
3. public class GetInLine {
4. public static void main(String[] args) {
5. PriorityQueue<String> pq = new
PriorityQueue<String>();
6. pq.add("banana");
7. pq.add("pear");
8. pq.add("apple");
9. System.out.println(pq.poll() + " " +
pq.peek());
10. }
11. }
```

What is the result?
A. apple pear
B. banana pear
C. apple apple
D. apple banana
E. banana banana
Answer: D

214. 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

215. Given:

```
34. HashMap props = new HashMap();
35. props.put("key45", "some value");
36. props.put("key12", "some other value");
37. props.put("key39", "yet another value");
38. Set s = props.keySet();
39. // insert code here What, inserted at line
39, will sort the keys in the props HashMap?
```

A. Arrays.sort(s);
B. s = new TreeSet(s);
C. Collections.sort(s);
D. s = new SortedSet(s);
Answer: B

216. Given:

```
11. public class Person {
12. private String name;
13. public Person(String name) {
14. this.name = name;
15. }
16. public boolean equals(Object o) {
17. if ( ! ( o instanceof Person) ) return false;
18. Person p = (Person) o;
19. return p.name.equals(this.name);
20. }
21. }
```

Which statement is true?
A. Compilation fails because the hashCode
method is not overridden.
B. A HashSet could contain multiple Person
objects with the same name.
C. All Person objects will have the same hash
code because the hashCode method is not
overridden.
D. If a HashSet contains more than one Person
object with name="Fred", then removing
another
Person, also with name="Fred", will remove
them all.
Answer: B

217. Given:

```
3. import java.util.*;
4. public class Hancock {
5. // insert code here
6. list.add("foo");
7. }
8. }
```

Which two code fragments, inserted
independently at line 5, will compile without
warnings?
(Choose two.)
A. public void addStrings(List list) {
B. public void addStrings(List<String> list) {
C. public void addStrings(List<? super String>
list) {
D. public void addStrings(List<? extends String>
list) {
Answer: B,C

218. 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. Compilation fails.
B. An exception is thrown at runtime.
C. The code executes normally and prints
"foo".
D. The code executes normally, but nothing is
printed.
Answer: B

219. 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.

Answer: C

220. Given:

1. public class TestSeven extends Thread {
2. private static int x;
3. public synchronized void doThings() {
4. int current = x;
5. current++;
6. x = current;
7. }
8. public void run() {
9. doThings();
10. }
11.}
Which statement is true?
A. Compilation fails.
B. An exception is thrown at runtime.
C. Synchronizing the run() method would make the class thread-safe.
D. The data in variable "x" are protected from concurrent access problems.
E. Declaring the doThings() method as static would make the class thread-safe.
F. Wrapping the statements within doThings() in a synchronized(new Object()) { } block would make the class thread-safe.
Answer: E

221. 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();

Answer: D,F

222. Given:

11. public static void main(String[] args) {
12. Object obj = new int[] { 1, 2, 3 };
13. int[] someArray = (int[])obj;
14. for (int i : someArray) System.out.print(i + " ");
15. }
What is the result?

A. 1 2 3
B. Compilation fails because of an error in line 12.
C. Compilation fails because of an error in line 13.
D. Compilation fails because of an error in line 14.
E. A ClassCastException is thrown at runtime.
Answer: A

223. Given:

10. interface Data { public void load(); }
11. abstract class Info { public abstract void load(); }
Which class correctly uses the Data interface and Info class?
A. public class Employee extends Info implements Data {
public void load() { /*do something*/ }
}
B. public class Employee implements Info extends Data {
public void load() { /*do something*/ }
}
C. public class Employee extends Info implements Data {
public void load(){ /*do something*/ }
public void Info.load(){ /*do something*/ }
}
D. public class Employee implements Info extends Data {
public void Data.load(){ /*do something*/ }
public void load(){ /*do something*/ }
}
E. public class Employee implements Info extends Data {
public void load(){ /*do something*/ }
public void Info.load(){ /*do something*/ }
}
F. public class Employee extends Info implements Data{
public void Data.load() { /*do something*/ }
public void Info.load() { /*do something*/ }
}
Answer: A

224. Given:

11. public static void parse(String str) {
12. try {
13. float f = Float.parseFloat(str);
14. } catch (NumberFormatException nfe) {
15. f = 0;
16. } finally {
17. System.out.println(f);
18. }
19. }
20. public static void main(String[] args) {
21. parse("invalid");
22. }
What is the result?
A. 0.0
B. Compilation fails.
C. A ParseException is thrown by the parse method at runtime.
D. A NumberFormatException is thrown by the parse method at runtime.
Answer: B

225. 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

226. 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

227. Given:

11. public interface A { public void m1(); }
12.
13. class B implements A { }
14. class C implements A { public void m1() { } }
15. class D implements A { public void m1(int x) { } }
16. abstract class E implements A { }
17. abstract class F implements A { public void m1() { } }
18. abstract class G implements A { public void m1(int x) { } }
What is the result?
A. Compilation succeeds.
B. Exactly one class does NOT compile.
C. Exactly two classes do NOT compile.
D. Exactly four classes do NOT compile.
E. Exactly three classes do NOT compile.
Answer: C

228. Given:

21. abstract class C1 {
22. public C1() { System.out.print(1); }
23. }
24. class C2 extends C1 {
25. public C2() { System.out.print(2); }
26. }
27. class C3 extends C2 {
28. public C3() { System.out.println(3); }
29. }
30. public class Ctest {
31. public static void main(String[] a) { new C3(); }
32. }
What is the result?
A. 3
B. 23
C. 32
D. 123
E. 321
F. Compilation fails.
G. An exception is thrown at runtime.

Answer: D

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

<img src='./scjp/229.png'></img>
A. 4321
B. 0000
C. An exception is thrown at runtime.
D. Compilation fails because of an error in line 18.
Answer: D

230. Given:

10. class One {
11. public One foo() { return this; }
12. }
13. class Two extends One {
14. public One foo() { return this; }
15. }
16. class Three extends Two {
17. // insert method here
18. }
Which two methods, inserted individually, correctly complete the Three class? (Choose two.)
A. public void foo() {}
B. public int foo() { return 3; }
C. public Two foo() { return this; }
D. public One foo() { return this; }
E. public Object foo() { return this; }

Answer: C,D

231. DRAG DROP

Click the Task button.

<img src='./scjp/231.png'></img>
Answer:

232. DRAG DROP

Click the Task button.

<img src='./scjp/232.png'></img>
Answer:

233. DRAG DROP

Click the Task button.

<img src='./scjp/233.png'></img>
Answer:

234. DRAG DROP

Click the Task button.

<img src='./scjp/234.png'></img>
Answer:

235. Given:

5. class Payload {
6. private int weight;
7. public Payload (int w) { weight = w; }
8. public void setWeight(int w) { weight = w; }
9. public String toString() { return Integer.toString(weight); }
10. }
11. public class TestPayload {
12. static void changePayload(Payload p) { /* insert code */ }
13. public static void main(String[] args) {
14. Payload p = new Payload(200);
15. p.setWeight(1024);
16. changePayload(p);
17. System.out.println("p is " + p);
18. } }
Which code fragment, inserted at the end of line 12, produces the output p is 420?
A. p.setWeight(420);
B. p.changePayload(420);
C. p = new Payload(420);
D. Payload.setWeight(420);
E. p = Payload.setWeight(420);
Answer: A

236. Given:

11. public void genNumbers() {
12. ArrayList numbers = new ArrayList();
13. for (int i=0; i<10; i++) {
14. int value = i * ((int) Math.random());
15. Integer intObj = new Integer(value);
16. numbers.add(intObj);
17. }
18. System.out.println(numbers);
19. }
Which line of code marks the earliest point that an object referenced by intObj becomes a candidate for garbage collection?
A. Line 16
B. Line 17
C. Line 18
D. Line 19
E. The object is NOT a candidate for garbage collection.
Answer: D

237. Given a correctly compiled class whose source code is:

1. package com.sun.sjcp;
2. public class Commander {
3. public static void main(String[] args) {
4. // more code here
5. }
6. }
Assume that the class file is located in /foo/com/sun/sjcp/, the current directory is /foo/, and that
the classpath contains "." (current directory).
Which command line correctly runs Commander?
A. java Commander
B. java com.sun.sjcp.Commander
C. java com/sun/sjcp/Commander
D. java -cp com.sun.sjcp Commander
E. java -cp com/sun/sjcp Commander
Answer: B

238. 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

239. 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

240. 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

241. Given:

```
3. public class Batman {
4. int squares = 81;
5. public static void main(String[] args) {
6. new Batman().go();
7. }
8. void go() {
9. incr(++squares);
10. System.out.println(squares);
11. }
12. void incr(int squares) { squares += 10; }
13. }
```

What is the result?
A. 81
B. 82
C. 91
D. 92
E. Compilation fails.
F. An exception is thrown at runtime.
Answer: B

242. 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

243. Given:

```
1. interface DoStuff2 {
2. float getRange(int low, int high); }
3.
4. interface DoMore {
5. float getAvg(int a, int b, int c); }
6.
7. abstract class DoAbstract implements DoStuff2, DoMore { }
8.
9. class DoStuff implements DoStuff2 {
10. public float getRange(int x, int y) { return 3.14f; } }
11.
12. interface DoAll extends DoMore {
13. float getAvg(int a, int b, int c, int d); }
```

What is the result?
A. The file will compile without error.
B. Compilation fails. Only line 7 contains an error.
C. Compilation fails. Only line 12 contains an error.
D. Compilation fails. Only line 13 contains an error.
E. Compilation fails. Only lines 7 and 12 contain errors.
F. Compilation fails. Only lines 7 and 13 contain errors.
G. Compilation fails. Lines 7, 12, and 13 contain errors.
Answer: A

244. 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

245. 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();
```

Answer: D,F

246. 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
Answer: A,C,E

247. 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

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

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

249. Given:

```
1. class TestA {
2. public void start() {
System.out.println("TestA"); }
```

3. }
4. public class TestB extends TestA {
5. public void start() {
System.out.println("TestB"); }
6. public static void main(String[] args) {
7. ((TestA)new TestB()).start();
8. }
9. }
What is the result?

A. TestA
B. TestB
C. Compilation fails.
D. An exception is thrown at runtime.
Answer: B

250. 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

251. Given:

11. public abstract class Shape {
12. private int x;
13. private int y;
14. public abstract void draw();
15. public void setAnchor(int x, int y) {
16. this.x = x;
17. this.y = y;
18. }
19. }
Which two classes use the Shape class correctly? (Choose two.)
A. public class Circle implements Shape {
private int radius;
}
B. public abstract class Circle extends Shape {
private int radius;
}

C. public class Circle extends Shape {
private int radius;
public void draw();
}
D. public abstract class Circle implements Shape {
private int radius;
public void draw();
}
E. public class Circle extends Shape {
private int radius;
public void draw() {/* code here */}
F. public abstract class Circle implements Shape {
private int radius;
public void draw() { /* code here */ }
Answer: B,E

252. Given:

10. class Nav{
11. public enum Direction { NORTH, SOUTH, EAST, WEST }
12. }
13. public class Sprite{
14. // insert code here
15. }
Which code, inserted at line 14, allows the Sprite class to compile?
A. Direction d = NORTH;
B. Nav.Direction d = NORTH;
C. Direction d = Direction.NORTH;
D. Nav.Direction d = Nav.Direction.NORTH;
Answer: D

253. 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

254. Given:

1. public class A {
2. public void doit() {
3. }
4. public String doit() {
5. return "a";
6. }
7. public double doit(int x) {
8. return 1.0;
9. }
10. }
What is the result?
A. An exception is thrown at runtime.
B. Compilation fails because of an error in line 7.
C. Compilation fails because of an error in line 4.
D. Compilation succeeds and no runtime errors with class A occur.
Answer: C

255. Given:

21. abstract class C1 {
22. public C1() { System.out.print(1); }
23. }
24. class C2 extends C1 {
25. public C2() { System.out.print(2); }
26. }
27. class C3 extends C2 {
28. public C3() { System.out.println(3); }
29. }
30. public class Ctest {
31. public static void main(String[] a) { new C3(); }
32. }
What is the result?
A. 3
B. 23
C. 32
D. 123
E. 321
F. Compilation fails.
G. An exception is thrown at runtime.
Answer: D

256. Given:

11. public class Rainbow {
12. public enum MyColor {
13. RED(0xff0000), GREEN(0x00ff00), BLUE(0x0000ff);
14. private final int rgb;
15. MyColor(int rgb) { this.rgb = rgb; }
16. public int getRGB() { return rgb; }
17. };
18. public static void main(String[] args) {
19. // insert code here
20. }
21. }
Which code fragment, inserted at line 19, allows the Rainbow class to compile?
A. MyColor skyColor = BLUE;
B. MyColor treeColor = MyColor.GREEN;
C. if(RED.getRGB() < BLUE.getRGB()) { }
D. Compilation fails due to other error(s) in the code.
E. MyColor purple = new MyColor(0xff00ff);
F. MyColor purple = MyColor.BLUE + MyColor.RED;
Answer: B

257. 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

258. Given:

```
11. abstract class Vehicle { public int speed() {
return 0; }
12. class Car extends Vehicle { public int
speed() { return 60; }
13. class RaceCar extends Car { public int
speed() { return 150; } ...
21. RaceCar racer = new RaceCar();
22. Car car = new RaceCar();
23. Vehicle vehicle = new RaceCar();
24. System.out.println(racer.speed() + ", " +
car.speed()
25. + ", " + vehicle.speed());
```

What is the result?
A. 0, 0, 0
B. 150, 60, 0
C. Compilation fails.
D. 150, 150, 150
E. An exception is thrown at runtime.
Answer: D

259. 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

260. 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. 12
B. The code runs with no output.
C. An exception is thrown at runtime.
D. Compilation fails because of an error in line 21.
E. Compilation fails because of an error in line 22.
F. Compilation fails because of an error in line 31.
Answer: E

261. Given:

```
3. class Employee {
4. String name; double baseSalary;
5. Employee(String name, double baseSalary) {
6. this.name = name;
7. this.baseSalary = baseSalary;
8. }
9. }
10. public class SalesPerson extends Employee
{
11. double commission;
12. public SalesPerson(String name, double
baseSalary, double commission) {
13. // insert code here
14. }
15. }
```

Which two code fragments, inserted independently at line 13, will compile? (Choose two.)
A. super(name, baseSalary);
B. this.commission = commission;
C. super();
this.commission = commission;
D. this.commission = commission;
super();
E. super(name, baseSalary);
this.commission = commission;
F. this.commission = commission;
super(name, baseSalary);
G. super(name, baseSalary, commission);
Answer: A,E

262. 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

263. Given a method that must ensure that its parameter is not null:

```
11. public void someMethod(Object value) {
12. // check for null value ...
20. System.out.println(value.getClass());
21. }
```

What, inserted at line 12, is the appropriate way to handle a null value?

A. assert value == null;
B. assert value != null, "value is null";
C. if (value == null) {
throw new AssertionException("value is null");
}
D. if (value == null) {
throw new IllegalArgumentException("value is null");
}
Answer: D

264. Given:

```
11. public static void main(String[] args) {
12. try {
13. args = null;
14. args[0] = "test";
15. System.out.println(args[0]);
16. } catch (Exception ex) {
17. System.out.println("Exception");
18. } catch (NullPointerException npe) {
19.
System.out.println("NullPointerException");
20. }
21. }
```

What is the result?
A. test
B. Exception
C. Compilation fails.
D. NullPointerException
Answer: C

265. Given:

```
11. public static Iterator reverse(List list) {
12. Collections.reverse(list);
13. return list.iterator();
14. }
15. public static void main(String[] args) {
16. List list = new ArrayList();
17. list.add("1"); list.add("2"); list.add("3");
18. for (Object obj: reverse(list))
19. System.out.print(obj + ", ");
20. }
```

What is the result?
A. 3, 2, 1,
B. 1, 2, 3,
C. Compilation fails.
D. The code runs with no output.
E. An exception is thrown at runtime.
Answer: C

266. 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

267. Given:

11. class X { public void foo() {
System.out.print("X "); } }
12.
13. public class SubB extends X {
14. public void foo() throws RuntimeException
{
15. super.foo();
16. if (true) throw new RuntimeException();
17. System.out.print("B ");
18. }
19. public static void main(String[] args) {
20. new SubB().foo();
21. }
22. }
What is the result?
A. X, followed by an Exception.
B. No output, and an Exception is thrown.
C. Compilation fails due to an error on line 14.
D. Compilation fails due to an error on line 16.
E. Compilation fails due to an error on line 17.
F. X, followed by an Exception, followed by B.
Answer: A

268. Given:

1. public class Mule {
2. public static void main(String[] args) {
3. boolean assert = true;
4. if(assert) {
5. System.out.println("assert is true");
6. }
7. }
8. }
Which command-line invocations will compile?

A. javac Mule.java
B. javac -source 1.3 Mule.java
C. javac -source 1.4 Mule.java
D. javac -source 1.5 Mule.java
Answer: B

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

270. Given:

11. public void testIfA() {
12. if (testIfB("True")) {
13. System.out.println("True");
14. } else {
15. System.out.println("Not true");
16. }
17. }
18. public Boolean testIfB(String str) {
19. return Boolean.valueOf(str);
20. }
What is the result when method testIfA is
invoked?
A. True
B. Not true
C. An exception is thrown at runtime.
D. Compilation fails because of an error at line
12.
E. Compilation fails because of an error at line
19.
Answer: A

271. Click the Exhibit button. Given: ClassA a =
new ClassA(); a.methodA(); What is the result?

<img src='./scjp/271.png'></img>

A. Compilation fails.
B. ClassC is displayed.
C. The code runs with no output.
D. An exception is thrown at runtime.
Answer: D

272. Click the Exhibit button.
Given:

<img src='./scjp/272.png'></img>

31. public void method() {
32. A a = new A();
33. a.method1();
34. }
Which statement is true if a TestException is
thrown on line 3 of class B?
A. Line 33 must be called within a try block.
B. The exception thrown by method1 in class A
is not required to be caught.
C. The method declared on line 31 must be
declared to throw a RuntimeException.
D. On line 5 of class A, the call to method2 of
class B does not need to be placed in a
try/catch
block.
Answer: B

273. Given that the elements of a
PriorityQueue are ordered according to natural
ordering, and:

2. import java.util.*;
3. public class GetInLine {
4. public static void main(String[] args) {
5. PriorityQueue<String> pq = new
PriorityQueue<String>();
6. pq.add("banana");
7. pq.add("pear");
8. pq.add("apple");
9. System.out.println(pq.poll() + " " +
pq.peek());
10. }
11. }
What is the result?
A. apple pear
B. banana pear
C. apple apple
D. apple banana
E. banana banana
Answer: D

274. Given:

11. public class Person {
12. private String name, comment;
13. private int age;
14. public Person(String n, int a, String c) {
15. name = n; age = a; comment = c;
16. }
17. public boolean equals(Object o) {
18. if (! (o instanceof Person)) return false;
19, Person p = (Person)o;
20. return age == p.age &&
name.equals(p.name);
21. }
22. }
What is the appropriate definition of the
hashCode method in class Person?
A. return super.hashCode();
B. return name.hashCode() + age * 7;
C. return name.hashCode() +
comment.hashCode() / 2;
D. return name.hashCode() +
comment.hashCode() / 2 - age * 3;
Answer: B

275. A programmer must create a generic class
MinMax and the type parameter of MinMax
must
implement Comparable. Which
implementation of MinMax will compile?

A. class MinMax<E extends Comparable<E>> {
E min = null;
E max = null;
public MinMax() {}
public void put(E value) { /* store min or max
*/ }
B. class MinMax<E implements
Comparable<E>> {
E min = null;
E max = null;
public MinMax() {}
public void put(E value) { /* store min or max
*/ }
C. class MinMax<E extends Comparable<E>> {
<E> E min = null;
<E> E max = null;
public MinMax() {}
public <E> void put(E value) { /* store min or
max */ }

D. class MinMax<E implements
Comparable<E>> {
<E> E min = null;
<E> E max = null;
public MinMax() {}
public <E> void put(E value) { /* store min or
max */ }
Answer: A

276. Given:

```
import java.util.*;
public class G1 {
public void takeList(List<? extends String> list)
{
// insert code here
}
}
```

Which three code fragments, inserted independently at line 6, will compile? (Choose three.)
A. list.add("foo");
B. Object o = list;
C. String s = list.get(0);
D. list = new ArrayList<String>();
E. list = new ArrayList<Object>();

Answer: B,C,D

277. 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.
Answer: B

278. Which two scenarios are NOT safe to replace a StringBuffer object with a StringBuilder object?
(Choose two.)

A. When using versions of Java technology earlier than 5.0.
B. When sharing a StringBuffer among multiple threads.
C. When using the java.io class StringBufferInputStream.
D. When you plan to reuse the StringBuffer to build more than one string.
Answer: A,B

279

Given:

```
1. public class LineUp {
2. public static void main(String[] args) {
3. double d = 12.345;
4. // insert code here
5. }
6. }
```

Which code fragment, inserted at line 4, produces the output | 12.345|?
A. System.out.printf("|%7d| \n", d);
B. System.out.printf("|%7f| \n", d);
C. System.out.printf("|%3.7d| \n", d);
D. System.out.printf("|%7.3f| \n", d);
E. System.out.printf("|%7.3d| \n", d);
F. System.out.printf("|%7.3f| \n", d);
Answer: F

280

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

281

Given:

1. d is a valid, non-null Date object
2. df is a valid, non-null DateFormat object set to the current locale What outputs the current locale's country name and the appropriate version of d's date?
A. Locale loc = Locale.getLocale();
System.out.println(loc.getDisplayCountry()
+ " " + df.format(d));
B. Locale loc = Locale.getDefault();
System.out.println(loc.getDisplayCountry()
+ " " + df.format(d));
C. Locale loc = Locale.getLocale();
System.out.println(loc.getDisplayCountry()
+ " " + df.setDateFormat(d));
D. Locale loc = Locale.getDefault();
System.out.println(loc.getDisplayCountry()
+ " " + df.setDateFormat(d));
Answer: B

282

Given:

```
1. public class BuildStuff {
2. public static void main(String[] args) {
3. Boolean test = new Boolean(true);
4. Integer x = 343;
5. Integer y = new BuildStuff().go(test, x);
6. System.out.println(y);
7. }
8. int go(Boolean b, int i) {
9. if(b) return (i/7);
10. return (i/49);
11. }
12. }
```

What is the result?
A. 7
B. 49
C. 343
D. Compilation fails.
E. An exception is thrown at runtime.
Answer: B

283. DRAG DROP

Click the Task button.

<img src='./scjp/283.png'></img>

Answer:

284. DRAG DROP

Click the Task button.

<img src='./scjp/284.png'></img>

Answer:

285. DRAG DROP

Click the Task button.

<img src='./scjp/285.png'></img>

Answer:

286. DRAG DROP
Click the Task button.

<img src='./scjp/286.png'></img>
Answer:

287. DRAG DROP

Click the Task button.

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Answer:

288. DRAG DROP

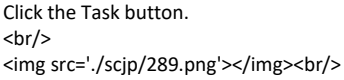
Click the Task button.

<img src='./scjp/288.png'></img>

Answer:

289. DRAG DROP

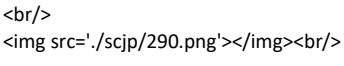
Click the Task button.



Answer:

290. DRAG DROP

Click the Task button.



Answer: