**《专高三第20单元》练习手册**

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专高三\_分布式架构\_第20单元

练习手册

一、判断题

1. (判断)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. } 在第9行添加如下代码可以编译成功 public int compare(Object o1, Object o2){/\* more code here \*/}A. 正确B. 错误2. (判断)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. } 上面代码可以编译成功A. 正确B. 错误3. (判断)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()); }} 上面代码可以编译错误A. 正确B. 错误4. (判断)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. } 代码输出结果是apple bananaA. 正确B. 错误5. (判断)Given: 34. HashMap props = new HashMap(); 35. props.put("key45", "some value"); 36. props.put("keyl2", "some other value"); 37. props.put("key39", "yet another value"); 38. Set s = props.keySet(); 39. //insert code here insert s = new SortedSet(s);at line 39, will sort the keys in the props HashMap?A. 正确B. 错误6. (判断)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. } result is A,B,CA. 正确B. 错误7. (判断)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. } result is 1,2,3A. 正确B. 错误8. (判断)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. } 在第23行编译错误A. 正确B. 错误9. (判断)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); 10. Collections.sort(a); 11. a.add(2); 12. Collections.reverse(a); 13. System.out.println(a); 14. } 15. } result is [2, 5, 3, 1]A. 正确B. 错误10. (判断)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. } 编译错误A. 正确B. 错误二、单选题1. (单选)package packageA; public class Message { String getText(){return "text";} } package packageB; public class XMLMessage extends packageA.Message { String getText(){return "<msg>text</msg>";} public static void main(String[] args) { System.out.println(new XMLMessage().getText()); } } 执行XMLMessage.main输出结果是：A. textB. 编译错误C. <msg>text</msg>D. 运行时抛出异常2. (单选)interface Fish{} class Perch implements Fish { } class Walleye extends Perch { } class Bluegill { } public class Fisherman { public static void main(String[] args) { Fish f = new Walleye(); Walleye w = new Walleye(); Bluegill b = new Bluegill(); if(f instanceof Perch) System.out.print("f-p "); if(w instanceof Fish) System.out.print("w-f "); if(b instanceof Fish) System.out.println("b-f "); } } 输出结果是：A. w-fB. f-p w-fC. w-f b-fD. f-p w-f b-f3. (单选)1.interface DoStuff2{ 2. float getRange(int low,int height);} 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);} 输出结果是：A. 编译正确B. 只有第7行存在编译错误C. 只有第12行存在编译错误D. 只有第13行存在编译错误4. (单选)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.} 输出结果是：A. 编译正确B. 存在多处编译错误C. 只有第20行存在编译错误D. 只有第21行存在编译错误5. (单选)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. } 输出结果是：A. Afoo AfooB. Afoo BfooC. Bfoo AfooD. Bfoo Bfoo6. (单选)11. class Animal{public String noise(){return "peep";}} 12. class Dog extends Animal{ 13. public String noise(){return "bark";} 14 } 15. class Cat extends Animal{ 16. public String noise(){return "meow";} 17. } ... 30. Animal animal = new Dog(); 31. Cat cat = (Cat)animal; 32. System.out.println(cat.noise()); 输出结果是：A. peepB. barkC. meowD. 运行时抛出异常7. (单选)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. } 输出结果是：A. s 14B. s 16C. s 10D. 编译错误8. (单选)10. class Nav{ 11. public enum Direction { NORTH, SOUTH, EAST, WEST } 12. } 13. public class Sprite{ 14. //insert code here 15. } 下面哪个选项放在第14行可以正常编译A. Direction d = NORTH;B. Nav.Direction d = NORTH;C. Direction d = Direction.NORTH;D. Nav.Direction d = Nav.Direction.NORTH;9. (单选)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. } 下面哪个选项放在第19行可以正常编译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.10. (单选)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. testB. nullC. An exception is thrown at runtime.D. Compilation fails because of an error in line 1.11. (单选)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.twice();D. import static utils.Repetition.twice;12. (单选)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.13. (单选)Given: 15. public class Yippee{ 16. public static void main(String[] args){ 17. for(int x = 1; x < args.length; x++){ 18. System.out.print(args[x] + " "); 19. } 20. } 21. } and two separate command line invocations: java Yippee java Yippee 1 2 3 4 What is the result?A. No output is produced. 1 2 3B. No output is produced. 2 3 4C. No output is produced. 1 2 3 4D. An exception is thrown at runtime. 1 2 314. (单选)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 lcelandic extends Horse{ 9. public void makeNoise(){System.out.println("vinny");} 10. public static void main(String[] args) { 11. Icelandic i1 = new lcelandic(); 12. Icelandic i2 = new lcelandic(); 13. Icelandic i3 = new lcelandic(); 14. i3 = i1; i1 = i2; i2 = null; i3 = i1; 15. } 16. } When line 14 is reached, how many objects are eligible for the garbage collector?A. 1B. 2C. 3D. 015. (单选)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. The code runs with no output.B. An exception is thrown at runtime.C. Compilation fails because of an error in line 21.D. Compilation fails because of an error in line 22.16. (单选)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;}}17. (单选)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 DoeB. 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 15.18. (单选)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();19. (单选)Given: 1. public class A { 2. 3. private int counter = 0; 4 5. public static int getInstanceCount(){ 6. return counter; 7. } 8. 9. public A(){ 10. counter++; 11. } 12. 13. } And given this code from Class B: 25. A a1 = new A(); 26. A a2 = new A(); 27. A a3 = new A(); 28. System.out.println(A.getInstanceCount()); What is the result?A. Compilation of class A fails.B. Line 28 prints the value 3 to System.out.C. Line 28 prints the value 1 to System.out.D. A runtime error occurs when line 25 executes.20. (单选)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.21. (单选)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. Only the object referenced by booth is eligible for garbage collection.B. Only the object referenced by snoog is eligible for garbage collection.C. Only the object referenced by snooch is eligible for garbage collection.D. The objects referenced by snooch and booth are eligible for garbage collection.22. (单选)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);三、多选题1. (多选)10. interface Foo{ 11. int bar(); 12. } 13. 14. public class Beta { 15. 16. class A implements Foo{ 17. public int bar(){return 1;} 18. } 19. 20. public int fubar(Foo foo){return foo.bar();} 21. 22. public void testFoo(){ 23. 24. class A implements Foo{ 25. public int bar() {return 2;} 26. } 27. 28. System.out.println(fubar(new A())); 29. } 30. 31. public static void main(String[] argv){ 32. new Beta().testFoo(); 33. } 34. } 下面正确的是：A. 编译错误B. 可以编译并输出结果为2C. 如果第16，17，18行删除，可以编译并输出结果2D. 如果第24，25，26行删除，可以编译并输出结果12. (多选)Given: 10. class Inner{ 11. private int x; 12. public void setX(int x){this.x = x;} 13. public int getX(){return x;} 14. } 15. 16. class Outer{ 17. private Inner y; 18. public void setY(Inner y){this.y = y;} 19 public Inner getY(){return y;} 20. } 21. 22. public class Gamma{ 23. public static void main(String[] args){ 24. Outer o = new Outer(); 25. Inner i = new Inner(); 26. int n = 10; 27. i.setX(n); 28. o.setY(i); 29. //insert code here 30. System.out.println(o.getY().getX()); 31. } 32. } 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); o.setY(i);3. (多选)Given: 31. //some code here 32. try{ 33. //some code here 34. }catch(Some Exception se) { 35. //some code here 36. }finally{ 37. //some code here 38. } Under which three circumstances will the code on line 37 be executed? (Choose three.)A. The code on line 33 throws an exception.B. The code on line 35 throws an exception.C. The code on line 31 throws an exception.D. The code on line 33 executes successfully4. (多选)Which two code fragments are most likely to cause a StackOverflowError? (Choose two.)A. for(int y=10; y<10; y++) doStuff(y);B. void doOne(int x){doTwo(x);} void doTwo(int y){doThree(y);} void doThree(int z){doTwo(z);}C. for(int x=0; x<1000000000; x++) doStuff(x);D. void counter(int i){counter(++i);}5. (多选)Given: 1. public class A{ 2. public void method1(){ 3. B b = new B(); 4. b.method2(); 5. //more code here 6. } 7. } 1. public class B{ 2. public void method2(){ 3. C c = new C(); 4. c.method3(); 5. //more code here 6. } 7. } 1. public class C{ 2. public void method3(){ 3. //more code here 4. } 5. } And 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.)A. The code on line 29 will be executed.B. The code on line 5 of class A will execute.C. The code on line 5 of class B will execute.D. The exception will be propagated back to line 27.6. (多选)Which three statements concerning the use of the java.io.Serializable interface are true? (Choose three.)A. An object serialized on one JVM can be successfully deserialized on a different JVM.B. The values in fields with the volatile modifier will NOT survive serialization and deserialization.C. The values in fields with the transient modifier will NOT survive serialization and deserialization.D. It is legal to serialize an object of a type that has a supertype that does NOT implement java.io.Serializable.7. (多选)Given that c is a reference to a valid java.io.Console object, which two code fragments read a line of text from the console? (Choose two.)A. String s = c.readLine();B. char[] c = c.readLine();C. String s = c.readLine("%s", "name ");D. char[] c = c.readLine("%s", "name ");8. (多选)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. StringBuffer s = new StringBuffer("123456789"); s.delete(0, 3).replace(1, 3, "24").delete(4, 6);B. StringBuffer s = new StringBuffer("123456789"); s.substring(3, 6).delete(1, 3).insert(1, "24");C. StringBuilder s = new StringBuilder("123456789"); s.substring(3, 6).delete(1, 2).insert(1, "24");D. StringBuilder s = new StringBuilder("123456789"); s.delete(0, 3).delete(1, 3).delete(2, 4).insert(1, "24");9. (多选)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 2.00.B. The value of a is 3.141.C. The value of a is 3.1415.D. The value of a is 3.1416.10. (多选)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.

四、技能题

案例题目: 使用Java语言实现如下需求

整型变量 a=10,b=12，在不使用第三个变量的前提下实现a与b数值的互换，写出解题思路并使用代码实现