130528 班第一阶段测试

2013.06.30

本阶段测试题的考试范围主要针对 JavaEE ＋ Android 就业班第一阶段 JavaSE 的知识。答题时间为：2 小时。将正确答案填写在答题纸上。

题目分为三部分：第一部分：单项选择（20*2 分＝40 分）第二部分：不定项选择（10*3 分＝30 分）第三部分：编程题(3*10 分＝30 分)。

第一部分：单项选择（共 20 道，每题 2 分，只有一个正确答案，答对得 2 分，答错不扣分）

Question 1

现有：

```
1.   class  Test4  {
2.       public static void main (String []  args)  {
3.           boolean x=true;
4.           boolean y=false;
5.           short z=42;
6.
7.           if((z++==42)＆＆(y=true))z++;
8.           if((x=false) || (++z==45))  z++;
9.
10.          System. out.println("z="+z);
11.      }
12.  }
```

结果为：

A. z=42

B. z=44

C. z= 45

D. z= 46

Question 2

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. }

以下代码，哪个选项插入16行将报如下错误：
java.lang.ClassCastException?
A. Alpha a = x;
B. Foo f= (Delta)x;
C. Foo f= (Alpha)x;
D. Beta b = (Beta)(Alpha)x;

Question 3

如下哪个选项准确描述了Man类的如下关系："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> }

Question 4

Given:
23. Object [] myObjects = {
24.　　　new Integer(12),
25.　　　*n*ew 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. 在23行报编译错误Compilation fails due to an error in line 23.
B. 在29行报编译错误Compilation fails due to an error in line 29.
C. 在29行报错：ClassCastException
D. 在31行报错：ClassCastException
E. 四个对象的值按正常顺序被打印。

Question 5

12. 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. doStuffx = 6 main x = 6
D. doStuffx = 5 main x = 5
E. doStuffx = 5 main x = 6
F. doStuffx = 6 main x = 5

Question 6

Exhibit:
1.class Enclosingone {
2.public class Insideone{}
3.}
4.class Inertest{
5.public static void main (String[] args){
6.Enclosingone eo= new Enclosingone();
7.//insert code here
8.}
9.}

哪个选项在第七行构造了一个内部类的实例？
A. Insideone ei= eo.new Insideone();
B. Eo.Insideone ei = eo.new Insideone();
C. Insideone ei = Enclosingone.new Insideone();
D. Enclosingone.Insideone ei = eo.new Insideone();

Question 7

Given:

1. public interface A {
2. String DEFAULT_GREETING = "Hello World";
3. public void method1();
4. }
A 试图创建一个子类接口B，即B的父类为A，哪个接口的声明是对的？
A. public interface B extends A { }
B. public interface B implements A {}
C. public interface B instanceOf A {}
D. public interface B inheritsFrom A { }

Question 8
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. }
结果为何？
A. TestA
B. TestB
C. 编译错误
D. 抛运行时异常

Question 9
Given:
11. public abstract class Shape {
12.   int x;
13.   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. }
Circle 类 继承并完全实现了 Shape 类.如下哪个是正确的？
A. Shape s = new Shape();
s.setAnchor(10,10);
s.draw();
B. Circle c = new Shape();

c.setAnchor(10,10);
c.draw();
C. Shape s = new Circle();
s.setAnchor(10,10);
s.draw();
D. Shape s = new Circle();
s->setAnchor(10,10);
s->draw();
E. Circle c = new Circle();
c.Shape.setAnchor(10,10);
c.Shape.draw();

Question 10

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

go in Sente

E. Compilation fails because of an error in line 17.

Question 11

```
1. public class Test {
2. int x= 12;
3. public void method(int x) {
4. x+=x;
5. System.out.println(x);
6. }
7. }
```
Given:
```
34. Test t = new Test();
35. t.method(5);
```
从第5行输出的结果是哪一项
A. 5
B. 10
C. 12
D. 17
E. 24

Question 12

Given:
```
55. int []x= {1, 2,3,4, 5};
56.int y[] =x;
57. System.out.println(y[2]);
```
Which is true?
A. Line 57 will print the value 2.
B. Line 57 will print the value 3.
C. Compilation will fail because of an error in line *55.*
D. Compilation will fail because of an error in line *56.*

Question 13

一个程序员需要创建一个日志记录方法,可以接受任意数量的参数。例如,它可以它可以通过如下的方式：
logIt("log message 1 ");
logIt("log message2","log message3");
logIt("log message4", "log message5", "log message6);
如下的哪个声明满足要求？
A. public void logIt(String * msgs)
B. public void logIt(String [] msgs)
C. public void logIt(String... msgs)

D. public void logIt(String msg1, String msg2, String msg3)

Question 14

```
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. }
```

Given this code from Class B:

```
25. A a1 =new A();
26. A a2 =new A();
27. A a3 =new A();
28. System.out.printIn(A.getInstanceCount() );
```

结果是什么?

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.
E. Compilation fails because of an error on line 28.

Question 15

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.}
```

结果是什么?

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.

Question 16

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();

Question 17

Given:

```
11. public void addStrings(List list) {
12. list.add("foo");
13. list.add("bar");
14. }
```

你必须如何修改代码，方可使得编译没有警告？
A. add this code after line 11:
list = (List<String>) list;
B. change lines 12 and 13 to:
list.add<String>("foo");
list.add<String>("bar");
C. change the method signature on line 11 to:
public void addStrings(List<? extends String> list) {
D. change the method signature on line 11 to:
public void addStrings(List<? super String> list) {
E. No changes are necessary. This method compiles without warnings.

Question 18

Given:

1. public class TestString 1 {
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. 42042
D. 462
E. Compilation fails.
F. An exception is thrown at runtime.

Question 19
我们定义一个 Account 类来描述银行账户，银行账户有账户名、金额等属性特征，同时有存款、取款等行为特征，下述代码适合描述的是哪项？

A. class Accountf{
        String name;//账户
        String amount;   //金额
        Account (String name){   }
        void deposit (double mount){   //存款
        }
        void withdraw (double mount){   //取款
        }
    }

B. class Accountf{
        String name;//账户
        double amount;   //金额
        Account (double amount){   }
        void deposit (double mount){   //存款
        }
        void withdraw (double mount){   //取款
        }
    }

C. class Accountf{
        String name;//账户
        double amount;   //金额
        Account (String name){   }

```
        void deposit (double mount){//存款
        }
        void withdraw (double mount){   //取款
        }
    }
D.  class Accountf{
        String name;//账户
        double amount;//金额
        Account (String name){     }
        void deposit(){//存款
        }
        void withdraw(){//取款
    }
```

Question 20

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".

第二部分：不定项选择（共 10 道，每题 3 分，至少有一个正确答

案，答对得 3 分，少选得 1 分，含错答项则不得分且不扣分）

Question 1

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. }

如下哪些类正确的使用了Shape类？
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 */ }
}

Question 2
Given:
10. class One {
11.   void foo() {}
12. }
13. class Two extends One {
14. //insert method here
15. }
如下哪些方法，在独立地插入到14行时，可以正确的完成Two类。
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 */ }

Question 3
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 ones can be results?
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.

Question 4

```
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. }
Given:
25. try {
26. A a=new A();
27. a.method1();
28. } catch (Exception e) {
29. System.out.print("an error occurred");
30. }
如果class C的第三行报NullPointerException，那么哪些是正确的？
A. The code on line 29 will be executed.
B. The application will crash.
C. The exception will be propagated back to line 27.
D. The code on line 5 of class B will execute.
E. The code on line 5 of class A will execute.

Question 5
10. class Foo {
11. private int x;
12.publicFoo(intx) {this.x=x; }
13. public void setX(int x) { this.x = x; }
14. public int getX() { return x; }
15. }
16.
17. public class Gamma {
18.
19. static Foo fooBar(Foo foo) {
20. foo = new Foo(100);
21. return foo;
22. }
23.
24. public static void main(String[] args) {
25. Foo foo = new Foo(300);
26. System.out.print(foo.getX() + "-");
27.
28. Foo fooFoo = fooBar(foo);
29. System.out.print(foo.getX() + "-");

30. System.out.print(fooFoo.getX() + "-");
31.
32. foo = fooBar(fooFoo);
33. System.out.print(foo.getX() + "-");
34. System.out.prmt(fooFoo.getX());
35. }
36. }
What is the output of this program?
A. 300-100-100-100-100
B. 300-300-100-100-100
C. 300-300-300-100-100
D. 300-300-300-300-100

Question 6
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. }
如下，哪些是正确的？
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

Question 7
Given:
1. public class TestString3 {
2. public static void main(String[] args) {

3. // insert code here
5. System.out.println(s);
6. }
7. }
如下的代码片段中，哪些个可以独立的插入到第3行，输出4247。
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");

Question 8
Given:
10. class MakeFile {
11. public static void main(String[] args) {
12. try {
13. File directory = new File("d");
14. File file = new File(directory,"f");
15. if(!file.exists()) {
16. file.createNewFile();
17. }
18. } catch (IOException e) {
19. e.printStackTrace
20. }
21. }
22. }
当前目录中不包含一个命名为"d" 的目录。以下哪些是正确的？
A. Line 16 is never executed.
B. An exception is thrown at runtime.
C. Line 13 creates a File object named "d."
D. Line 14 creates a File object named "f.'
E. Line 13 creates a directory named "d" in the file system.
F. Line 16 creates a directory named "d" and a file 'f' within it in the
file system.
G. Line 14 creates a file named 'f' inside of the directory named "d" in
the file system.

Question 9

```
1. import java.util.*;
2.
3. public class NameList {
4. private List names = new ArrayList();
5. public synchronized void add(String name) { names.add(name); }
6. public synchronized void printAll() {
7. for (int i = 0; i <names.size(); i++) {
8. System.out.print(names.get(i) +" ");
9. }
10. }
11. public static void main(String[] args) {
12. final NameList sl = new NameList();
13.for(int i=0;i<2;i++) {
14. new Thread() {
15. public void run() {
16. sl.add("A");
17. sl.add("B");
18. sl.add("C");
19. sl.printAll();
20. }
21. }.start();
22. }
23. }
24. }
```

如果类可以编译并运行，如下哪些说法是对的？
A. An exception may be thrown at runtime.
B. The code may run with no output, without exiting.
C. The code may run with no output, exiting normally.
D. The code may run with output "A B A B C C ", then exit.
E. The code may run with output "A B C A B C A B C ", then exit.
F. The code may run with output "A A A B C A B C C ", then exit.
G. The code may run with output "A B C A A B C A B C ", then exit.

Question 10
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());
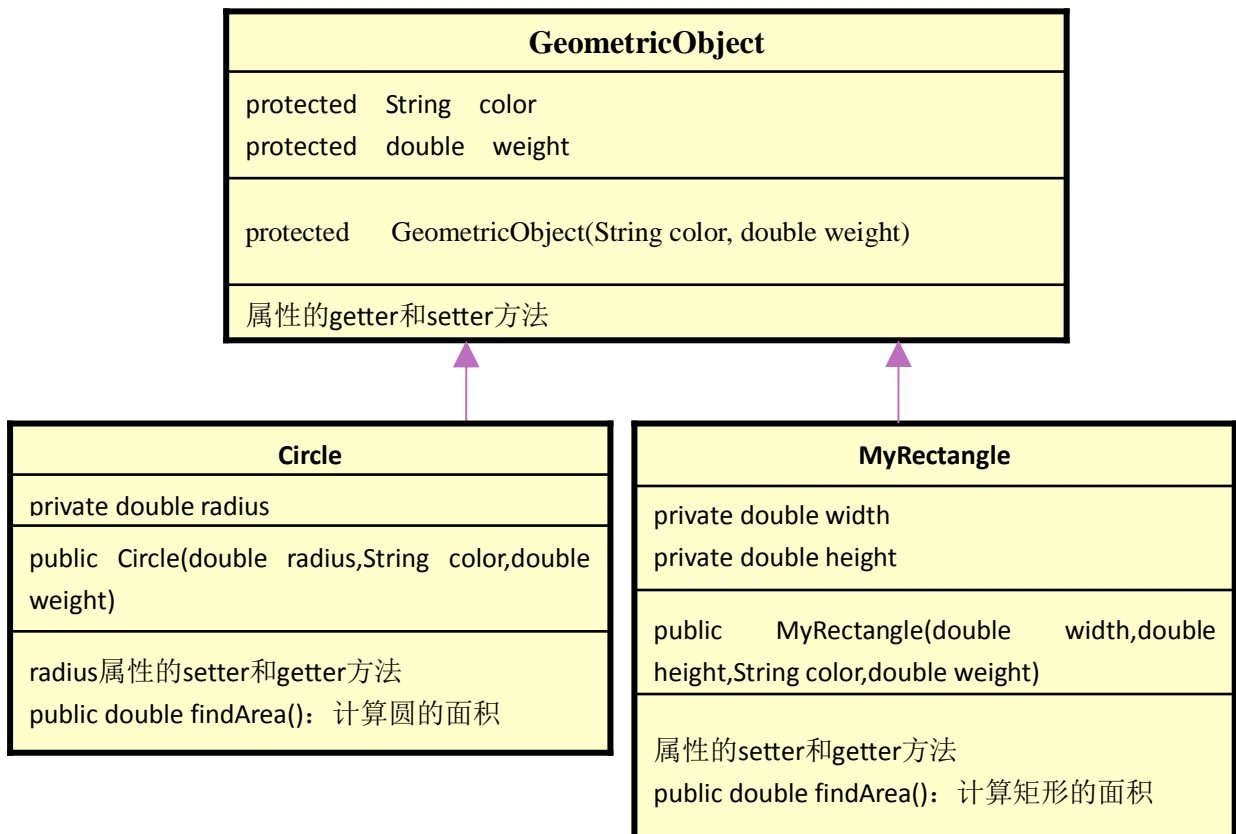4. }
5. }
在不影响Client输出内容的情况下，可以如何修改Target类？
A. Line 4 of class Target can be changed to return i++;
B. Line 2 of class Target can be changed to private int i = 1;
C. Line 3 of class Target can be changed to private int addOne() {
D. Line 2 of class Target can be changed to private Integer i = 0;

第三部分：编程题（共 3 道，每题 10 分，视答题情况给分）
1. 结合实例，实现单例模式（**Singleton**）

2. 一个数如果恰好等于它的因子之和，这个数就称为**"完数"**。例如 **6＝1＋2＋3**.编程 找出 **1000** 以内的所有完数

3. 定义三个类，父类 **GeometricObject** 代表几何形状，子类 **Circle** 代表圆形，**MyRectangle** 代表矩形。

GeometricObject
protected   String   color protected   double   weight
protected   GeometricObject(String color, double weight)
属性的getter和setter方法

Circle
private double radius
public   Circle(double   radius,String   color,double weight)
radius属性的setter和getter方法 public double findArea()：计算圆的面积

MyRectangle
private double width private double height
public   MyRectangle(double   width,double height,String color,double weight)
属性的setter和getter方法 public double findArea()：计算矩形的面积

定义一个测试类 **Test**，编写 **equalsArea** 方法测试两个对象的面积是否相等（提示：①利用动态绑定技术 ②可以根据情况在父类中添加一个方法），编写 **displayGeometricObject** 方法显示对象的面积