四川大学期末考试试题（闭卷）

（2018~2019 学年第 2 学期） A 卷

课程号：__311075030__   课程名称：__面向对象程序设计导论__   任课教师：_____

适用专业年级：__软件工程 2018 级__   学号：_____   姓名：_____

题 号	一 (60%)		二 (20%)		三 (20%)
得 分					
卷面总分		阅卷时间			

注意事项： 1. 请务必将本人所在学院、姓名、学号、任课教师姓名等信息准确填写在试题纸和添卷纸上；

　　　　　　 2. 请将答案全部填写在本试题纸上；

　　　　　　 3. 考试结束，请将试题纸、添卷纸和草稿纸一并交给监考老师。

评阅教师	得分

一、单项选择题（本大题共 30 小题，每小题 2 分，共 60 分）

提示： 在每小题列出的四个备选项中只有一个是符合题目要求的，请将其代码填写在下表中。错选、多选或未选均无分。

1	2	3	4	5	6	7	8	9	10

11	12	13	14	15	16	17	18	19	20

21	22	23	24	25	26	27	28	29	30

1. The term wrapper classes refers to〔　　〕

   (A) a collection of Java classes that "wrap" Java primitive types

   (B) a collection of Java classes that contain other Java classes

   (C) the Java classes that contain at least two data fields

   (D) the Java classes that contain themselves

2. A difference between the methods print and println of the class java. io. Print Writer is that〔　　〕

   (A) println inserts a new line at the beginning of its output, but print does not

   (B) print inserts a new line at the beginning of its output, but println does not

(C) print appends a new line to the end of its output, but println does not

(D) println appends a new line to the end of its output, but print does not

3. Consider the following Java program segment. 〔　　〕

   int x = 10;

   int y = 11;

   System. out. Println (x + "0" + y);

   Which of the following statements is true about the program segment?

   (A) The output caused by the code will be 21.

   (B) The output caused by the code will be 10 0 11.

   (C) The code will cause a compilation error.

   (D) The output caused by the code will be 10011.

4. Suppose x, y, and z are variables of type int. Consider the following three conditions:

   I. (x == y) && (y == z) && (x == z)

   II. (x == y) || (y == z) && (x == z)

   III. (x - y) * (x - z) * (y - z) == 0

   Which of these conditions is (are) always true if (x == y) is true? 〔　　〕

   (A) I. Only

   (B) II. Only

   (C) II. and III. only

   (D) I. and II. and III

5. All Java exception classes are derived from the class〔　　〕

   (A) java.lang.Error

   (B) java.lang.Throwable

   (C) java.lang.RuntimeException

   (D) java.io.IOException

6. Given the following code, what value will be output by the last statement? 〔　　〕

   StringTokenizer st = new StringTokenizer("there are apples;bananas", ";");

   String s;

   int count = 0;

   while (st.hasMoreTokens()) {

   s = st.nextToken();

   ++count;

   }

   stdOut.println(count);

   (A) 1

   (B) 2

   (C) 3

   (D) 4

7. After a typical debugger encounters a breakpoint, the programmer using the debugger may perform which of the following actions? 〔　　〕

   I.Examine the values of variables in the halted program

   II.Execute the current line

   III.Resume execution of the halted program

   (A) I only

   (B) I, II, and III

   (C) I and II only

   (D) III only

8. Consider the following method.

```java
public int multiply(int n) {
    if (n == 0)
        return 1;
    else if (n % 2 == 1)
        return n;
    else
        return n * multiply(n - 2);
}
```

What will be returned by a call to multiply(6)? 〔　　〕

   (A) 1

   (B) 8

   (C) 48

   (D) 642

9. Which of the following statements is (are) true about the use of an asterisk (*) in a Java import statement? 〔　　〕

   I.It does not incur run-time overhead.

   II.It can be used to import multiple packages with a single statement.

   III.It can be used to import multiple classes with a single statement.

   (A) III only

   (B) I, II, and III

   (C) I only

   (D) I and III only

10. Consider the following Java program segment. 〔　　〕

```java
import java.io.*;
public class SomeClass{
    public void x() new IOException{
        throw new IOException("Exception from x");
    }
    public void y(){
```

```
            x();
        }
    }
}
```

Which of the following is true concerning the definitions for the methods x and y?

(A) x has an illegal definition, but y has a legal definition.

(B) Neither x nor y has a legal definition.

(C) Both x and y have legal definitions.

(D) x has a legal definition, but y has an illegal definition.

11. Which package does not need to be explicitly imported into a Java program? 〔　　〕

(A) java.applet

(B) java.io

(C) java.lang

(D) java.awt

12. In a UML class diagram's representation of a class, the top, middle, and lower rectangular compartments respectively describe the _____ of the class. 〔　　〕

(A) name, methods, and constants

(B) attributes, methods, and constants

(C) attributes, methods, and name

(D) name, attributes, and methods

13. A collection typically models a _____ relationship. 〔　　〕

(A) zero-to-one

(B) one-to-one

(C) many-to-many

(D) one-to-many

14. Which of the following is true about association and aggregation in UML class diagrams? 〔　　〕

(A) Association is a special form of aggregation.

(B) Association and aggregation have no meaningful relationship.

(C) Aggregation is a special form of association.

(D) Association is the opposite of aggregation.

15. Consider the following Java program segment. 〔　　〕

```
import java.io.*;
public class Test {
    public Test( ) {
        System.out.println("default test");
    }
    public Test( int i ) {
        System.out.println("non-default test");
    }
```

```
        public static void main(String[] args) {
            Test t = new Test(2);
        }
    }
```

Which of the following will be output during execution of the program segment?

(A) The line of text "default test" followed by the line of text "non-default"

(B) The line of text "non-default test" followed by the line of text "default"

(C) The line of text "non-default test"

(D) The line of text "default test"

16. Which is the Java keyword used to denote a class method? 〔　　〕

   (A) static

   (B) class

   (C) private

   (D) final

17. Consider the following declarations. 〔　　〕

   ```
   public interface Flyer {
       int fliesHigherThan (Flyer other);
       //Other methods are not shown.
   }
   public class Eagle implements Flyer {
       //Methods are not shown.
   }
   ```

   Which of the following method headers of fliesHigherThan can be added to the Eagle class so that it will satisfy the Flyer interface?

   (A) public int fliesHigherThan(Eagle other)

   (B) public int fliesHigherThan(Flyer other)

   (C) public boolean fliesHigherThan(Flyer other)

   (D) int fliesHigherThan (Flyer other)

18. If the method int myMethod(int a, int b) is defined in a Java class C, which of the following methods cannot coexist as a different method in class C? 〔　　〕

   (A) int myMethod(float a, int b)

   (B) float myMethod(int x, float y)

   (C) int myMethod(int x, int y)

   (D) int myMethod(int x, float y)

19. Which is a Java access modifier used to designate that a particular data field will not be inherited by a subclass? 〔　　〕

   (A) protected

   (B) default

(C) final

(D) private

20. From within a child class, its parent class is referred to via the keyword 〔　　〕

(A) super

(B) parent

(C) base

(D) this

21. Consider the following Java program segment.

```
String[] str = {"Three","Two","One"};
for (int i = 0; i < str.length; ++i) {
    System.out.println(str[i]+"/");
}
```

What will be output upon execution of the program segment? 〔　　〕

(A) Three,Two,One

(B) One/Two/Three/

(C) Three/Two/One/

(D) One,Two,Three

22. Consider the following method call, where c is an instance of the class java.util.ArrayList.

```
c.size();
```

This method call returns the number of 〔　　〕

(A) bytes used by c

(B) times that the method c.add has been called

(C) ArrayList objects that have been instantiated

(D) elements in the ArrayList represented by c

23. Consider the following Java program fragment.

```
public void drive(Vehicle v) {
    ...
}
    ...
drive(obj);
```

The method call drive(obj) is valid if obj is which of the following? 〔　　〕

I. A descendent of class Vehicle

II. An ancestor of class Vehicle

III. An object of class Vehicle

(A) III only

(B) I and III only

(C) I, II, and III

(D) II and III only

24. The Strategy design pattern is likely to be useful when implementing which of the following? 〔　　〕

    I. An application that offers several alternate sorting algorithms

    II. A simple class to store the address of an organization of which only one instance can be instantiated

    (A) None

    (B) I and II

    (C) I only

    (D) II only

25. Which of the following statements is (are) true about inheritance in Java? 〔　　〕

    I. A class can extend more than one abstract class.

    II. A class can implement more than one interface.

    (A) I and II

    (B) None

    (C) II only

    (D) I only

26. The ActionEvent class and ActionListener interface are available in the _____ package of Java. 〔　　〕

    (A) javax.event

    (B) java.event

    (C) javax.swing.event

    (D) java.awt.event

27. What is the signature of the method specified in the Java ActionListener interface? 〔　　〕

    (A) void actionListener (ActionEvent ae)

    (B) void actionPerformed (ActionListener al)

    (C) void actionEvent (ActionPerformed ap)

    (D) void actionPerformed (ActionEvent ae)

28. Consider the following Java program segment.

    PrintWriter fileOut = new PrintWriter(new FileWriter("output.txt"));

    If the file output.txt already exists, which of the following events will occur when the program segment is executed? 〔　　〕

    (A) A run-time error will be generated.

    (B) The existing contents of output.txt will be preserved.

    (C) The existing contents of output.txt will be erased.

    (D) A FileAlreadyExists exception will be raised.

29. The multiplicity of an association between two classes indicates the number of〔　　〕

    (A) instances of one class that can be associated with an instance of the other class

(B) methods of one class that are called by the other class

(C) times that one class's methods are called by the other class

(D) methods and variables common to both classes

30. The static model of a software system typically includes which of the following? 〔　　〕

I.Attributes of classes

II.Actions that occur between classes

III.Structural relationships between classes

(A) I, II, and III

(B) I and III only

(C) II and III only

(D) I and II only

评阅教师	得分

二、设计与编程题（本大题共 3 小题，共 20 分）

1. Declare an array intArr, which include {1,2,3,4,5}, Please write a Java program to caculate the sum of the five elements, then output the result into console. 〔5 points〕

2. There is a class named ImgResource, please applying singleton pattern to it, write the java code and draw the UML class diagram. 〔10 points〕

3. There is a class A as following ,please write a java program to unit test this class，each method only need one test case;〔5 points〕

```java
public class Class A {

  public int multiply(int x,int y) {
      return x*y;
  }

  public int sum(int x,int y) {
      return x+y;
  }
}
```

评阅教师	得分

三、UML 设计题（本大题共 2 小题，共 20 分）。

A company needed development an Employee Information Management (EIM) Software to maintain the employee information. For example, project manager and general staff. Both of them have some common attributes :ID, name, salary. Also, the project manager has some own attributes (project funds), and the general staff has some own attributes (overtime pay);

In addition, both of employee mentioned above should have two overridden functions: to String () and equals (); The function of to String () is used to show the information of the employee, include ID, salary. The function of equals () is used to compare by ID;

A employee belongs to employee management system, and the class of EIS provide information management with the following functions:

1. Add a new employee into the EIM

2. Remove a employee from EIM by given ID

Tasks:

(1) Draw the class diagram (classes: EIM, Employee, Project Manager and General Staff). (11 分)

(2) Write the classes based on the UML you created, and implement the functions of the classes designed. (9 分)