

四川大学期中考试试题（闭卷）

课程号： 311075030 课程名称：面向对象程序设计导论

一、单项选择题（本大题共 5 小题，每小题 2 分，共 10 分）

1. which of the following categorizations can be applied to both the data fields and the methods in a java class?
 - (A) native and non-native
 - (B) default and non-default
 - (C) static and non-static
 - (D) abstract and non-abstract
2. Which of the following keywords is not used for exception handling statements?
 - (A) try
 - (B) break
 - (C) catch
 - (D) finally
3. What is the role of the constructor in a class definition?
 - (A) Protect the member variable
 - (B) Read the member variables of the class
 - (C) Describe the characteristics of the class
 - (D) Initialize the member variable
4. To construct an instance of an ArrayList class that inherits the List interface, which of the following methods is correct?
 - (A) ArrayList myList=new Object()
 - (B) List myList=new ArrayList()
 - (C) ArrayList myList=new List()
 - (D) List myList=new List()
5. Which of the following statements about construction methods is true?
 - (A) A class can have multiple constructors.
 - (B) The constructor is called at class definition time.
 - (C) Constructor methods can only be called by other methods in the object.
 - (D) A constructor can have the same or different name from the class.

二、编程题（本大题共 1 小题，每小题 30 分，共 30 分）

1. You're creating a new app. Complete the following methods below for the Map class.

```

public class Pair {
    public String key;
    public Color value;
} // Pair has no constructors!

public class Map {
    private Pair[] array = new Pair[0]; // The Pair class is defined before ..

    /* Adds the given name and color pair to the map. Assume the name is non-null
       and has not been added before. Assume color is non-null */
    public void add(String name, Color color) {
        // Write code below to create a Pair object to hold the given name and color.
        // Complete the code below add your new pair object to the map's array.
    }

    /* Returns the color object previously added to this map for the given name.
       Returns null if no such entry exists. Hint: Do not compare strings using == */
    public Color find(String name) {
    }

    /* Resets the map to be empty again. */
    public void reset() {
    }

    /* By using the above find method write minimal code (e.g. 1 line): Return true if
       the map contains the given key, false otherwise. */
    public boolean contains(String name) {
    }
} // end class

```

三、类图题（本大题共 1 小题，每小题 15 分，共 15 分）

1. Draw a UML Class Diagram representing the following elements from the problem domain for a hockey league. A hockey league is made up of at least four hockey teams. Each hockey team is composed of six to twelve players, and one player captains the team. A team has a name and a record. Players have a number and a position. Hockey teams play games against each other. Each game has a score and a location. Teams are sometimes lead by a coach. A coach has a level of accreditation and a number of years of experience, and can coach multiple teams. Coaches and players are people, and people have names and addresses. Draw a class diagram for this information, and be sure to label all associations with appropriate multiplicities.

Assumptions: each player only plays on one team, each captain only captains one team, each team only plays in one league.

四、英译汉（本大题共 15 小题，每小题 3 分，共 45 分）

1. Java applications are "stand-alone" programs, interpreted by a Java interpreter (not a web browser) on a host system. To execute a Java application, the user types a command that invokes the Java interpreter on the specified application.
2. The class containing method main must be public. Class names should have the first character of each word capitalized and they should not contain any underscores (_). The file containing the source code must have the same name as the class it contains and use the .java extension.
3. With exception handling, the normal flow of the code is specified in the body of a try block and each failure is handled in a catch block that is separated from the normal flow of the code.
4. System.out is used to display typical and regular program output. System.err is used to display prompts and error messages. This is just a convention that makes it easy for programmers and users to identify the different types of output.
5. To avoid premature termination of a program, you must include try-catch blocks that enable the program to recover from failures. Exception objects are instances of classes that descend from class Throwable.
6. The basic data types in Java refer to the data types that do not have object characteristics, cannot call methods and attributes, and only occupy a fixed-size memory space. And java has a total of 8 basic data types.
7. An association represents the relationship between two or more classes. A binary association is a relationship between two classes. There is a binary association if an object of a class requires an object of another class to do its work.
8. In Java, inheritance means that a subclass can inherit instance variables and methods from its parent class. Subclasses can access all public or protected instance variables and methods defined in their parent class. By inheriting from the parent class, subclasses gain the attributes and behaviors of the parent class, which they can then extend with their own unique attributes and behaviors.
9. In a one-to-many association between classes A and B, one instance of class A may be related with many instances of class B, but one instance of class B is related with exactly one instance of class A.

10. The JVM is the most critical part of the entire Java implementation for cross-platform development. All Java programs are compiled into .class files, which can be executed on the virtual machine. In other words, classes do not correspond directly to the operating system of the machine, but instead interact indirectly with the operating system through the virtual machine.

11. If a checked exception might occur in a method and the method does not have catch block to handle the checked exception, then the checked exception must be declared in the method header using a throws clause.

12. Since class variables and class methods are not associated with any particular object, they can be used even when no objects of the class exist!

13. JRE is an essential runtime environment for running programs written in Java language. It is also through JRE that Java developers can release their programs to users and enable them to use them.

14. In Java, a class can define many methods with the same name, but with different formal parameters in terms of number, type, or order, and they may also return different values. This object-oriented programming feature is called method overloading.

15. An abstract method consists of a method signature without a method body. No instance of an abstract class can be created. An abstract class has one purpose: to act as the superclass of a class hierarchy.