四川大学期末考试试题（闭卷）

（2020~2021 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 2020 级__　　　　　学号：_____　　姓名：_____

题　　号	一 (40%)	二 (40%)	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。

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评阅教师	得分

一、单项选择题（本大题共 20 小题，每小题 2 分，共 40 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

1. What's wrong about the main method of a Java program is this (　　).
   A. Java program can have multiple main () methods
   B. The main () method is the entry point to the Java program
   C. The main () method is decorated with public, static, and void, and the order cannot be changed
   D. The main () method is followed by a pair of curly braces in which the commands the computer needs to execute are written

2. The default layout manager for panels and applets is (　　).
   A. Card Layout
   B. Flow Layout
   C. Border Layout
   D. Grid Layout

3. int [ ] x=new int[10]; Which of the following statements is true (　　).
    A. x [9] is 0
    B. x [9] undefined
    C. x [10] is 0
    D. x [0] is null

4. The following statement is incorrect (　　).
    A. Methods defined in interfaces are abstract methods with no method body
    B. A Java class can have only one parent class, but can implement multiple interfaces
    C. In the class declaration, declare the interface that the class implements with the implements keyword
    D. Use the implements keyword when defining interfaces.

5. When writing Java household graphical interface program, which package should be introduced (　　).
    A. java. awt.*
    B. java. applet.
    C. java. io.*
    D. java. awt. event.

6. Which of the following is not a valid identifier in Java (　　).
    A. $per
    B. two Num
    C. _my Var
    D. *point

7. In the Java language, the following description of class inheritance is correct (　　).
    A. A class can inherit from more than one parent class
    B. A class can have more than one subclass
    C. A subclass can use all the methods of its parent class
    D. Subclass - has more members than the parent class

8. The method definition of the subclass is exactly the same as that of the superclass, but the implementation of the method is different, which takes the (　　) of the method.
    A. overload
    B. implementation
    C. override
    D. inherit

9. System. out. print In ("5" + 2); which is the output (　　).
    A. 52
    B. 7
    C. 2
    D. 5

10. Which is the output of the program (　　).
    int count= 1;
    for (inti= 1;i<= 5; i++){
    count += i;
    }
    System. out. print ln (count);
    A. 5
    B. 1
    C. 15
    D. 16

11. Which is correct about the interface? (　　).
    A. Implementing an interface must implement all methods of the interface
    B. A class can implement only one interface
    C. There can be no inheritance relationship between interfaces
    D. Interfaces and abstract classes are the same thing

12. 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. Only
    B. Only
    C. and III. only
    D. and II. and III

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 is the Java keyword used to denote a class method?
    A. static
    B. class
    C. private
    D. final

15. 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

16. UML class diagrams can describe which of the following?
    I. The internal structure of classes
    II. Relationships between classes
    A. None
    B. I and II
    C. I only
    D. II only

17. If the method int sum (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 sum (float a, int b)
    B. float sum (int x, float y)
    C. int sum (int x, int y)
    D. int sum (int x, float y)

18. From within a child class, its parent class is referred to via the keyword (　　).
    A. Super
    B. This
    C. Parent
    D. base

19. An object that contains methods that traverse a collection linearly from start to finish is known as a (n).
    A. int
    B. iterator
    C. loop
    D. Exception

20. The subclass of an abstract class must ( ).
    A. be abstract
    B. be abstract or implement all of the parent's abstract methods
    C. be abstract and implement all of the parent's abstract methods
    D. implement all of the parent's abstract methods

评阅教师	得分

二、设计与编程题（本大题共 **5** 小题，共 **40** 分）

1. Write a program to find the sum of all integers from 1 to 100, and output the results. (5 points)

2. The following class Main Class is designed to store and manipulate a list of Strings. The incomplete class declaration is show below. You are required to complete the code. The output of the program is shown in the figure. (5 points)

```
print all strings:
country China
country America
country English
name Mary
name Linda
name Mike
name John
print strings with prefix 'country':
country China
country America
country English
print strings after deleting:
name Mary
name Linda
name Mike
name John
```

```java
import java. util. Iterator;
import java. util. Vector;

public class Main Class {
    Vector vector = new Vector ();

    public static void main (String[] args) {
        Main Class main Class = new Main Class ();
        System. out. println ("print all strings:");
        main Class. print Elements ();
        System. out. println ("print strings with prefix 'country':");
```

```
        main Class. print Starts With ("country");
        System. Out. println ("print strings after deleting:");
        main Class. delete Starts With ("country");
        main Class. print Elements ();

    }
    public Main Class () {
        vector. Add ("country China");
        vector. Add ("country America ");
        vector. Add ("country English");

        vector. Add ("name Mary");
        vector. Add ("name Linda");
        vector. Add ("name Mike");
        vector. Add ("name John");
    }
    public void print Elements ( ) {

    ①


    }
    public void delete Starts With (String prefix) {

    ②


    }
    public void print Starts With (String prefix) {

    ③


    }
}
```

3. Write a class to read a given text file (java.txt) and output the contents to console. (Hint: Buffered Reader, File Input Stream, Input Stream Reader). (10 points)

    java.txt: This is a java test

                    1 2 3 4 5

4. There is a Card Account as following, please complete the Test Card Account class to unit test this class, each method only need one test case (Note that: 1) is the function call successful. 2) after calling the function, is the balance correct?). (10 points)

```
public class Card Account {
    private double balance;
    public Card Account () {
        balance = 0.0;
    }
    public double get Balance () {
        return balance;
    }
    public boo lean deposit (double amount) {
        if (amount > 0) {
            balance += amount;
            return true;
        } else {
            return false;
        }
    }
    public boo lean cost (double amount) {
        if (amount > 0 && balance >= amount) {
            balance -= amount;
            return true;
        } else {
            return false;
        }
    }
}

public class Testcard Account {
    private static Print Writer std Out =
        new Print Writer (System. out, true);
    private static Print Writer stdErr =
        new Print Writer (System. Err, true);
    public static void assert True (String message,
                                     boo lean condition) {
        if (! condition) {
            stdErr. print ("** Test failure ");
            stdErr. println (message);
        }
    }
}
public static void   main(String[] args)   {
    boo lean result;
    // Testing constructor and accessor
    Card Account account One = new Card Account ();
    //unit test case for each method
```

　　①

　　}

5.　Class Student Info contains the contact information for student. Only one instance of class Student Info can be created. Please complete the following singleton pattern. (10 points)

```
public class Student Info {

    ①



        private String name;
        private String ID;

        //define the constructor
    ②



        static public Student Info get Sing let on Instance () {
    ③



        }
        public String getName() {
            return name;
        }
        public String getID() {
            return ID;
        }
}
```

评阅教师	得分

三、**UML 设计题（本大题共 2 小题，第一题 9 分，第二题 11 分，共 20 分）。**

A Java language-based C/S software needs to provide registration function, which is briefly described as follows:

The user enters personal information through the class **RegisterForm**, and the user clicks the "registration" button to transfer the input information to the data access class of the operating database through an object (**UserDTO**) that encapsulates the user input data. In order to improve the scalability of the system, different data access classes may need to be provided for different databases. Therefore, data access class interfaces are provided, such as **IUserDAO**. Each specific data access class is an implementation class of a data access class interface. For example, **OracleUserDAO** is a data access class specially used for accessing Oracle database.

1. Draw the class diagram according to the above description. To simplify the class diagram, the personal information only includes the account number (UserAccount) and the password (UserPassword), the UserDTO class should contain the corresponding GET and SET methods, and the interface class has the function of addUser.
2. Complete the source code and you don't need to finish the functions.