a) e if you have followed either proper syntax or semantics

Which cha …w is not allowed in an identifier?

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山东大学 高级程序设计语言 课程试卷 B

07-08 学年 1 学期

题号	一	二	三	四	五	六	七	八	九	十	总分	总分人
得分												

得分	阅卷人

Part I. Single Choice Questions for Basic Concept (2 Points each, 50 Points total).

1	2	3	4	5	6	7	8	9	10

1. Which of the following range of int is correct?
   a) -27 -- 27-1
   b) 0 -- 216-1
   c) - 215 -- 215-1
   d) - 231 -- 231-1
2. Which of the following is true regarding Java syntax and semantics?
   a) a Java compiler can determine if you have followed proper syntax but not proper semantics
   b) a Java compiler can determine if you have followed proper semantics but not proper syntax
   c) a Java compiler can determine if you have followed both proper syntax and semantics
3. a Java compiler cannot determin
   a) $
   b) _
   c) 0 (zero)
   d) ^
4. If x is an int and y is a float, all of the following are legal except which assignment statement?

a) y = x;
b) x = y;
c) y = (float) x;
d) x = (int) y;

5. If you want to store into the String name the value “George Bush”, you would do which statement?
   a) String name = "George Bush";
   b) String name = new String("George Bush");
   c) String name = "George" + " " + "Bush";
   d) Any of the above would work
6. If a, b, and c are int variables with a = 5, b = 7, c = 12, then the statement
   int z = (a * b – c) / a; will result in z equal to
   a) 0
   b) 4
   c) 5
   d) –5
7. What is output with the statement System.out.println(""+x+y); if x and y are int values where x=10 and y=5?
   a) 15
   b) 10 5
   c) 105
   d) An error since neither x nor y is a String
8. Which of the following would return the last character of the String x?
   a) x.charAt(0);
   b) x.charAt(last);
   c) x.charAt(length(x));
   d) x.charAt(x.length( )-1);
9. Which properties are true of String objects?
   a) Their lengths never change
   b) The shortest string has zero length
   c) Individual characters within a String may be changed using the replace method
   d) Only (a) and (b) are true
10. Since you cannot take the square root of a negative number, you might use which of the following instructions to find the square root of the variable x?
    a) Math.sqrt(x*x);
    b) Math.sqrt((int) x);
    c) Math.sqrt(Math.abs(x));
    d) Math.abs(Math.sqrt(x));

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11	12	13	14	15	16	17	18	19	20

11. Given two String variables, s1 and s2, to determine if they are the same length, which of the following conditions would you use?
    a) (s1.equals(s2))
    b) (s1.length( ).equals(s2))
    c) (s1.length( ).equals(s2.length( ))
    d) (s1.length( ) == s2.length( ))
12. In order to preserve encapsulation of an object, we would do all of the following **except for** which one?
    a) Make the instance data private
    b) Define the methods in the class to access and manipulate the instance data
    c) Make the methods of the class public
    d) Make the class final
13. Having multiple class methods of the same name where each method has a different number of or type of parameters is known as
    a) encapsulation
    b) information hiding
    c) method overloading
    d) importing
14. The expressions that are passed to a method in an invocation are called
    a) actual parameters
    b) formal parameters
    c) formal arguments
    d) formals
15. Assume that x and y are int variables with x = 5, y = 3, and a and d are char variables with a = 'a' and d = 'A', and examine the following conditions:

    Condition 1: (x < y && x > 0)

    Condition 2: (a != d || x != 5)

    Condition 3: !(true && false)

    Condition 4: (x > y || a == 'A' || d != 'A')

    a) Conditions 2, 3 and 4 are all true, Condition 1 is not
    b) Only Condition 2 is true
    c) Condition 2 and Condition 4 are true only
    d) All 4 Conditions are true
16. If a switch statement is written that contains no break statements whatsoever,
    a) this is a syntax error and an appropriate error message will be generated
    b) each of the case clauses will be executed every time the switch statement is encountered
    c) this is equivalent to having the switch statement always take the default clause, if one is present
    d) none of the above
17. If x is an int where x = 1, what will x be after the following loop terminates?

```
while (x < 50)
        x *= 2;
```

    a)64
    b)100
    c)128
    d)None of the above, this is an infinite loop
18. The following nested loop structure will execute the inner most statement (x++) how many times?

```
for (int j = 0; j < 100; j++)
  for (int k = 100; k > 0; k--)
        x++;
```

    a) 100
    b)200
    c)10,000
    d)20,000
19. The statement int[ ] list = {5, 10, 15, 20};
    a) adds 4 int values to array list
    b) initializes list to have 20 int values
    c) initializes list to have 4 int values
    d) declares list but does not initialize it
20. If int[ ] x = new int[15]; and the statement x[-1] = 0; is executed, then which of the following Exceptions is thrown?
    a) IndexOutOfBoundsException
    b) ArrayIndexOutOfBoundsException
    c) NegativeArraySizeException
    d) NullPointException

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21	22	23	24	25

21. Which two statements are true regarding the default constructor?_____
    a) The default constructor returns void type data.
    b) The default constructor's parameter type is void.
    c) The default constructor has no parameter.
    d) If a class has any own constructor, the compiler will also create a default constructor for it.
22. A Java program can handle an exception in several different ways. Which of the following is not a way that a Java program could handle an exception?
    a) ignore the exception
    b) handle the exception where it arose using try and catch statements
    c) propagate the exception to another method where it can be handled
    d) throw the exception to a pre-defined Exception class to be handled
23. In a constructor, where its invoking statement for its parent constructor locate?
    a) anywhere
    b) first statement
    c) last statement
    d) It can not invoke its parent constructor.
24. Which following statements about variable and its domain are not correct
    a) Instance variables are members of class.
    b) Instance variables should be declared with keyword static.
    c) Variables that defined in method are created when this method is executed.
    d) Local variables must be initialized before used.
25. Suppose a method A may incur exceptions in running time, and it expects its invoking method to deal with these exceptions, then what should A method do?
    a) throw Exception
    b) throws Exception
    c) new Exception
    d) do nothing.

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Part II. Analysis programs and give result (20 Points total)

1. (6 Points)

```
class T {
   void f(int x) {
      System.out.println("int in T: " + x);
   }

   void f(double x) {
      System.out.println("double in T: " + x);
   }
   void f(Object x) {
      System.out.println("Object in T: " + x);
   }
}

class S
      extends T {
   void f(int x) {
      System.out.println("int in S: " + x);
   }
}

class TestOverLoadAndOverrid {
   public static void main(String[] args) {
      T t = new S();
      t.f(3.5f);
      t.f(20);
      t.f("abcdef");
      t.f(3.5);
      t.f(20L);
   }
}
```

Your Answer:

2. (7 Points)

```
import java.io.*;
   public class Test {
    public static void main(String[] args)            {
              T t=new T();
              try { t.getz();
                }catch(Exception e) { System.out.println("Exception1");}
              finally{ System.out.println("can continue");}
            try{    t.modify(-2,-2); t.getz();
            }catch(Exception e){System.out.println("Exception2");}
            finally{System.out.println("finally");}
      }
   }
class T
{ int x=2,y=2,z;
   void modify (int x,int z)
   { x=z;
      y=z;
   }
   void getz() throws Exception
   { if((x+y)==0)
         throw new Exception();
      z=10/(x+y);
      System.out.println("z is "+z);
   }
 }
```

Your Answer:

3. (7 Points)

```
  public class Test2007 {
     public static void main(String args[]) {
        int a[][] = new int[5][5];
        int i, j, k = 10;
        for (i = 0; i < 5; i++) {
           for (j = 0; j < 5; j++) {
              if ( (i + j) < 5) {
                 a[4-i][4-j] = k;
                 k++;
              }
              else {
                 a[4-i][4-j] = 'a';
              }
           }
        }
        for (i = 0; i < 5; i++) {
           for (j = 0; j < 5; j++) {
              System.out.print(a[i][j] + " ");
           }
           System.out.println();
        }
     }
  }
```

Your Answer:

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Part III. Application (30 Points)

1. Write a method to calculate function F(10 points)

$$f(x,n)=1-\frac{x^2}{2!}+\frac{x^4}{4!}-\frac{x^6}{6!}+\cdots+(-1)^n\frac{x^{2n}}{(2n)!}$$

2. Write a completed Java program to meet the following requirement(20 points):

1) Read real numbers from the binary file located in “c:\temp\data.dat”

2) Sort the numbers in descending order

3) Write the result to another file named “result.dat”

4) DO NOT use random access method.