Java Programming - Test Your Understanding

Difficulty Level: Medium

1. Which of the following is not a feature of Java?

    A. Compiled and Interpreted

    B. Use of Pointer

    C. Platform independent

    D. Multithreading

2. What will be the output of the following code snippet?

```
int x = 5;
int y = x++ + ++x;
System.out.println(x + "," + y);
```

    A. 7,10

    B. 7,11

    C. 7,12

    D. 7,13

3. Which of the following statements are NOT CORRECT statements for creating a two-dimensional array?

```
i. int arr [ ] = new int[5][3];
ii. int arr [ ][ ] = new int[ ][3];
iii. int arr [ ][ ] = new int[5][ ];
iv. int [ ][ ] arr = new int[5][3];
```

    A. i and ii

    B. i and iii

    C. ii and iii

    D. ii and iv

4. Composition in Java represents _____

    A. HAS_A relationship

    B. IS_A relationship

    C. Inheritance relationship

    D. Realization relationship

5. What will be the output of the following program?

```java
class Employee {
        int empId;
        String name;
}
class Demo
{
        public static void main(String args[])
        {
                Employee e[ ] = new Employee[2];
                e[0].empId = 1;
                e[0].name = "Johny" ;
                e[1].empId = 2;
                e[1].name = "Dsouza" ;
                System.out.print(e[0].name + "," + e[1].name);
        }
}
```

    A. Johny,Dsouza

    B. null,null

    C. Compilation error

    D. Run time error

6. What will be the output of the following program?

```java
class Broadcast
{
    static String msg = "Hello";

    Broadcast(String m)
    {
        msg = m;
    }

}
class MyMainClass
{
    public static void main(String args[])
    {
        Broadcast obj1 = new Broadcast("Greetings");
        Broadcast obj2 = new Broadcast("Welcome");

        System.out.println(obj1.msg);

    }
}
```

A. Hello

B. Greetings

C. Welcome

D. Compilation error

7. What will be the output of the following program?

```java
class First
{
        void callMe()
        {
                System.out.println("callMe First");
                myFun();
        }

        static void myFun()
        {
                callMe();
        }
}

class MyMainClass
{
        public static void main(String args[])
        {
                First f = new First();
                f.myFun();
        }
}
```

A. callMe First

B. Will print "callMe First" in an infinite loop

C. Compilation error

D. Runtime error

Difficulty Level: Medium

8. Which of the following Double wrapper class method can be used to convert a numeric String e.g. "35.25" to a primitive double value?

    A. doubleValue()
    B. valueOf()
    C. parseDouble()
    D. toString()

9. What will the output of the following program?

```
class Demo
{
    int data = 10;

    Demo(int data)
    {
        data = data;
    }

    void fun()
    {
      data = data * 2;
       System.out.println(data);
    }
}

class MyMainClass
{
    public static void main(String args[])
    {
        Demo d = new Demo(15);
        d.fun();
    }
}
```

    A. 10

    B. 20

    C. 30

    D. compilation error

10. Which of the following statements is TRUE about method overloading while there is an inheritance relationship between two classes?

   A. Method overloading is possible in the same class (parent class) only

   B. Method overloading is possible in the child class only

   C. Method overloading is possible in both the classes i.e. in the same class (parent class) as well as in the child class

   D. Method overloading is not possible

11. What will be the output of the following program?

```
class First
{
        static void myFun()
        {
                System.out.println("Welcome ");
        }
}

class Second extends First
{
        static void myFun()
        {
                System.out.print("Hello ");
                First.myFun();
        }
}

class UseFirst
{
        public static void main(String args[])
        {
                First obj = new Second();
                obj.myFun();
        }

}
```

    A. Hello

    B. Welcome

    C. Hello Welcome

    D. Compilation error

12. Which of the followings are FALSE about a 'final class' in Java?

i. A final class cannot be inherited
ii. A final class can be inherited
iii. Object of a final class cannot be created
iv. Object of a final class can be created

    A. i & ii

    B. ii & iii

    C. iii & iv

    D. ii & iv

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13. What will be the output of the following program ?

```java
class A
{
        void fun()
        {
                System.out.println("fun of A");
        }
}

class B extends A
{
        void fun()
        {
                System.out.println("fun of B");
        }
}




class RunProg
{
        public static void main(String args[])
        {
                A aobj = new A();
                B bobj = (B)aobj;
                bobj.fun();
        }
}
```

    A. fun of A

    B. fun of B

    C. Compilation error

    D. Runtime error

14. Which of the following statements are TRUE about the 'abstract' keyword?

i. Instance of any abstract class cannot be created

ii. Instance of any abstract class can be created

Iii. abstract method must have a body (method definition)

iv. abstract method does not have body (method definition)

      A. i & iii

      B. ii & iii

      C. ii & iv

      D. i & iv

15. Which of the following statements are TRUE?

i.   A marker interface is an interface without any method

ii. A marker interface is an interface with only one method

iii. A functional interface is an interface without any method

iv. A functional interface is an interface with only one abstract method

   A. i & iii

   B. ii & iii

   C. i & iv

   D. ii & iv

16. What will be the output of the following program?

```java
class A
{
        A()
        {
                System.out.print("A 0-arg ");
        }

        A(int val)
        {
                System.out.print("A 1-arg ");
        }

}

class B extends A
{
        B( )
        {
                System.out.print("B 0-arg ");
        }

        B(int val)
        {
                System.out.print("B 1-arg ");
        }
}


class AB
{
        public static void main(String args[])
        {
                B b = new B(5);
        }
}
```

A. B 1-arg

B. A 0-arg B 1-arg

C. A 1-arg B 1-arg

D. B 1-arg A 0-arg

17. Considering the following program, select the appropriate answer

```java
class MainClass
{
        public static void myFun()
        {
                class MsgPrinter
                {
                        void printMessage(String msg)
                        {
                                System.out.println(msg);
                        }
                }

                MsgPrinter msgPrt = new MsgPrinter();
                msgPrt.printMessage("Hello Friends!!");
        }

        public static void main(String args[])
        {
                myFun();
        }

}
```

A. Compilation error, we can define a class inside any class

B. Compilation error, we cannot define a class inside any static method

C. Will print "Hello Friends!!" as output

D. Runtime error

18. Which of the following statements is FALSE about the access modifiers in Java?

    A. private members of a class can be accessed within the same class only

    B. protected members of a class can be accessed within the child class only

    C. default members of a class can be accessed within the same package only and not outside the package

    D. public members can be accessed from anywhere

19. In the following code snippet, how many objects are eligible for garbage collection
    Note: Assume B is the subclass of A.

```
A aObj = new A();
B bObj = new B();
aObj = bObj;
bObj = null;
bObj = new B();
```

Answer Choices

    A. 0

    B. 1

    C. 2

    D. 3

20. Which of the following expression yields an integer between 0 and 100, inclusive?

A. (int) (Math.random() * 101)

B. (int) (Math.random() * 100 + 1)

C. (int) (Math.random() * 101) + 1

D. (int) (Math.random() * 100)

21. If class B is the subclass of class A and implements the two interfaces C and D then which of the following statements is CORRECT?

A. class B extends A implements C implements D

B. class B implements C implements D extends A

C. class B implements C,D extends A

D. class B extends A implements C, D

22. Given the following code snippet,

```java
class StringDemo
{
    public static void main(String args[])
    {
        String str1 = "Welcome";
        String str2 = "Welcome";
        String str3 = new String ("Welcome");
        String str4 = new String ("Welcome");

    }
}
```

Answer which of the following statements will return true?

i.   str1 == str2
ii. str1 == str3
iii. str 3 == str4
iv. str2.equals(str4)

A. Only i

B. i and iii

C. i and iv

D. i, iii and iv

23. What will be the output of the following program?

```java
class OneException extends RuntimeException
{
}

class MyClass
{
    static public void sayHello() throws OneException
    {
        if(true) {
            throw new OneException();
        }
        System.out.println("hi everyone");
    }

    public static void main(String args[])
    {
        MyClass.sayHello();
    }

}
```

    A. hi everyone

    B. Compilation error

    C. Runtime error

    D. None of the options

24. Which of the following statements are FALSE with respect to exception handling?

i. Checked exceptions are exceptions that are checked at compile time

ii. Checked exceptions are exceptions that are checked at runtime

iii. A try without any catch but with a finally block can exist

iv. finally block is executed only when there is any exception in the corresponding try block

    A. i & iii

    B. i & iv

    C. ii & iii

    D. ii & iv

25. Which of the following is not a FileWriter class method?

    A. write(String)

    B. flush()

    C. read( )

    D. close()

26. Which of the following class is defined for byte stream for reading?

    A. FileReader
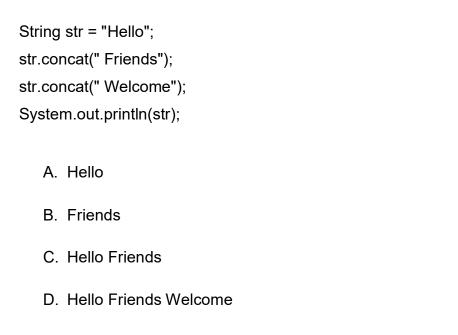
    B. FileInputStream

    C. BufferedReader

    D. Scanner

27. Which of the following class is not a part of java.nio package

    A. Buffer

    B. ByteBuffer

    C. MappedByteBuffer

    D. BufferedReader

28. Which of the following is not a method of Object class?

    A. hashcode( )

    B. equals( )

    C. compare( )

    D. wait( )

29. Which of the followings are FALSE?

i. Daemon thread is a high priority thread

ii. Daemon thread is a low priority thread

iii. sleep() method can be used in non-synchronized block

iv. wait() method can be used in non-synchronized block

Answer Choices

    A. i and iii

    B. i and iv

    C. ii and iii

    D. ii and iv

30. What will be the output of the following code snippet?

```
String str = "Hello";
str.concat(" Friends");
str.concat(" Welcome");
System.out.println(str);
```

    A. Hello

    B. Friends

    C. Hello Friends

    D. Hello Friends Welcome

31. Assume that the ASCII code for character 'c' is 99. What is the output of the following code?

```
System.out.println ("a" + 'c');
```

    A. 9799

    B. 196

    C. a99

    D. ac

32. Which of the following statements are TRUE about TreeMap?

i. It does not maintain the insertion order of the elements
ii. It stores the elements in the sorted order of their keys
iii. It cannot be iterated using Iterator
iv. It cannot contain duplicate values

    A. Only i

    B. i & ii

    C. ii & iii

    D. ii & iv

33. Which of the following is not a Collections class method?

    A. sort()

    B. reverseOrder()

    C. shuffle()

    D. next()

34. What will be the likely output of the following program?

```java
import java.util.*;
class MainClass
{
    public static void main(String args[])
    {
        Set<String> strSet1 = new HashSet <String> ();
        Set<String> strSet2 = new HashSet <String> ();

            strSet1.add("Mariya");
            strSet1.add("Joseph");
            strSet1.add("Tim");

            strSet2.add("Mercy");
            strSet2.add("Joseph");

            strSet1.addAll(strSet2);

        for(String s : strSet1)
        {
            System.out.print(s + " ");
        }
}}
```

    A. Mariya Joseph Tim

    B. Mariya Joseph Tim Mercy

    C. Mariya Joseph Tim Mercy Joseph

    D. None of the options

35. Which of the following declaration is CORRECT to create a thread class?

    A. class MyThread implements Thread

    B. class MyThread extends Runnable

    C. class MyThread implements Runnable

    D. None of the options

36. What will be the output of the following program?

```java
import java.util.*;
class MainClass
{
    public static void main(String args[])
      {
            Set <String> set1 = new TreeSet<String>();

            set1.add("Shyam");
            set1.add("Mohit");
            set1.add("Sita");

            for(String s: set1)
            {
                System.out.print(s + " ");
            }
      }
}
```

    A. Shyam Mohit Sita

    B. Sita Mohit Shyam

    C. Mohit Shyam Sita

    D. Cannot decide the output or

37. Consider the following program and provide the output:

```java
import java.util.*;
class MainClass
{
    public static void main(String args[])
    {
            List<String> arrayList = new ArrayList<String>();

            arrayList.add("Smriti");
            arrayList.add("Jemimah");
            arrayList.add("Shafali");
            arrayList.add("Deepti");
            arrayList.add("Renuka");

            Arrays.sort(arrayList);

            for(String s: arrayList)
            {
                    System.out.print(s + " ");
            }
    }
}
```

A. Smriti Jemimah Shafali Deepti Renuka

B. Deepti Jemimah Renuka Shafali Smriti

C. Cannot decide the output order

D. Compilation error

38. Please consider an ArrayList as follows:

    List <Integer> arrList = new ArrayList<>();

Which of the following is the correct way to iterate and print the arrList elements:

i. arrList.forEach(i -> System.out.print(i + " "););
ii. arrList.forEach(i -> System.out.print(i + " "));
iii. arrList.forEach(i -> {System.out.print(i + " ");});

    A. Only i

    B. i & ii

    C. i & iii

    D. ii & iii

39. Consider the following program and choose the correct answer

```java
class MyGen<T1,T2>
{
    void myFun(T1 x, T2 y)
    {
        System.out.println(x);
            System.out.println(y);
    }
}
class MyGenDemo
{
    public static void main(String args[])
    {
        MyGen<Integer, Integer> mg1 = new MyGen<Integer, Integer>();
        mg1.myFun(10,15);

        MyGen<String, String> mg2 = new MyGen<String, String>();
        mg2.myFun("10","15");

            if(mg1 == mg2)
                    System.out.println("equal");
            else
                    System.out.println("unequal");
    }
}
```

A. Will print "equal"

B. Will print "unequal"

C. Compilation error

D. Runtime error

40. Which of the following is TRUE about Comparable and Comparator?

  i. Both are interfaces
 ii. Comparable is an interface and Comparator is a class
iii. Comparable has compare ( ) method and Comparator has compareTo( ) method
iv. Comparable has compareTo( ) method and Comparator has compare( ) method

    A. i and iii

    B. i and iv

    C. ii and iii

    D. ii and iv