

1. Which four options describe the correct default values for array elements of the types indicated?

1. int -> 0
 2. String -> "null"
 3. Dog -> null
 4. char -> '\u0000'
 5. float -> 0.0f
 6. boolean -> true
- B: 1,3,4,5

2. Which one of these lists contains only Java programming language keywords?

- [A](#).class, if, void, long, Int, continue
- [B](#).goto, instanceof, native, finally, default, throws
- [C](#).try, virtual, throw, final, volatile, transient
- [D](#).strictfp, constant, super, implements, do
- [E](#).byte, break, assert, switch, include

B

3. Which will legally declare, construct, and initialize an array?

- [A](#).int [] myList = {"1", "2", "3"};
- [B](#).int [] myList = (5, 8, 2);
- [C](#).int myList [] [] = {4,9,7,0};
- [D](#).int myList [] = {4, 3, 7};

D

4. Which is a reserved word in the Java programming language?

- [A](#).method
- [B](#).native
- [C](#).subclasses
- [D](#).reference
- [E](#).array

B

5. Which is a valid keyword in java?

- [A](#).interface
- [B](#).string
- [C](#).Float
- [D](#).unsigned

A

6. Which three are legal array declarations?

1. int [] myScores [];
2. char [] myChars;
3. int [6] myScores;
4. Dog myDogs [];
5. Dog myDogs [7];

A

```
public interface Foo
{
    int k = 4; /* Line 3 */
}
```

Which three piece of codes are equivalent to line 3?

1. final int k = 4;
2. public int k = 4;
3. static int k = 4;
4. abstract int k = 4;
5. volatile int k = 4;
6. protected int k = 4;

A

8. Which one of the following will declare an array and initialize it with five numbers?

- [A.](#) Array a = new Array(5);
- [B.](#) int [] a = {23,22,21,20,19};
- [C.](#) int a [] = new int[5];
- [D.](#) int [5] array;

B

9. Which three are valid declarations of a char?

1. char c1 = 064770;
2. char c2 = 'face';
3. char c3 = 0xbeef;
4. char c4 = \u0022;
5. char c5 = '\iface';
6. char c6 = '\uface';

B

10. Which is the valid declarations within an interface definition?

- [A.](#) public double methoda();
- [B.](#) public final double methoda();
- [C.](#) static void methoda(double d1);
- [D.](#) protected void methoda(double d1);

A

11. Which one is a valid declaration of a boolean?

- [A.](#) boolean b1 = 0;
- [B.](#) boolean b2 = 'false';
- [C.](#) boolean b3 = false;
- [D.](#) boolean b4 = Boolean.false();
- [E.](#) boolean b5 = no;

C

12. Which three are valid declarations of a float?

1. float f1 = -343;
2. float f2 = 3.14;
3. float f3 = 0x12345;
4. float f4 = 42e7;
5. float f5 = 2001.0D;
6. float f6 = 2.81F;

[A.](#) 1, 2, 4

[C.](#) 1, 3, 6

[B.](#) 2, 3, 5

[D.](#) 2, 4, 6

C

13. Which is a valid declarations of a String?

[A.](#) String s1 = null;

[B.](#) String s2 = 'null';

[C.](#) String s3 = (String) 'abc';

[D.](#) String s4 = (String) "\ufeed";

A

14. What is the numerical range of a char?

[A.](#) -128 to 127

[C.](#) 0 to 32767

[B.](#) $-(2^{15})$ to $(2^{15}) - 1$

[D.](#) 0 to 65535

D

```
1. public void foo( boolean a, boolean b)
{
    if( a )
    {
        System.out.println("A"); /* Line 5 */
    }
    else if(a && b) /* Line 7 */
    {
        System.out.println( "A && B");
    }
    else /* Line 11 */
    {
        if ( !b )
        {
            System.out.println( "notB" ) ;
        }
        else
        {
            System.out.println( "ELSE" ) ;
        }
    }
}
```

[A.](#) If *a* is true and *b* is true then the output is "A && B"

[B.](#) If *a* is true and *b* is false then the output is "notB"

[C.](#) If *a* is false and *b* is true then the output is "ELSE"

[D.](#) If *a* is false and *b* is false then the output is "ELSE"

C

```

2. switch(x)
{
    default:
        System.out.println("Hello");
}

```

Which two are acceptable types for x?

1. byte
2. long
3. char
4. float
5. Short
6. Long

[A.1 and 3](#)

[B.2 and 4](#)

[C.3 and 5](#)

[D.4 and 6](#)

A

3.

```

public void test(int x)
{
    int odd = 1;
    if(odd) /* Line 4 */
    {
        System.out.println("odd");
    }
    else
    {
        System.out.println("even");
    }
}

```

Which statement is true?

[A.Compilation fails.](#)

[B."odd" will always be output.](#)

[C."even" will always be output.](#)

[D."odd" will be output for odd values of x, and "even" for even values.](#)

A

4. public class While

```

{
    public void loop()
    {
        int x= 0;
        while ( 1 ) /* Line 6 */
        {
            System.out.print("x plus one is " + (x + 1)); /* Line 8 */
        }
    }
}

```

Which statement is true?

[A. There is a syntax error on line 1.](#)

[B. There are syntax errors on lines 1 and 6.](#)

[C. There are syntax errors on lines 1, 6, and 8.](#)

[D. There is a syntax error on line 6.](#)

D

1. Which is true about an anonymous inner class?

- [A.](#)It can extend exactly one class and implement exactly one interface.
- [B.](#)It can extend exactly one class and can implement multiple interfaces.
- [C.](#)It can extend exactly one class or implement exactly one interface.
- [D.](#)It can implement multiple interfaces regardless of whether it also extends a class.

C

2. class Boo

```
{
    Boo(String s) { }
    Boo() { }
}
class Bar extends Boo
{
    Bar() { }
    Bar(String s) {super(s);}
    void zoo()
    {
        // insert code here
    }
}
```

which one create an anonymous inner class from within class Bar?

- [A.](#)Boo f = new Boo(24) { };
- [B.](#)Boo f = new Bar() { };
- [C.](#)Bar f = new Boo(String s) { };
- [D.](#)Boo f = new Boo.Bar(String s) { };

B

3. Which is true about a method-local inner class?

- [A.](#)It must be marked final.
- [B.](#)It can be marked abstract.
- [C.](#)It can be marked public.
- [D.](#)It can be marked static.

B

4. Which statement is true about a static nested class?

- [A.](#)You must have a reference to an instance of the enclosing class in order to instantiate it.
- [B.](#)It does not have access to nonstatic members of the enclosing class.
- [C.](#)It's variables and methods must be *static*.
- [D.](#)It must extend the enclosing class.

B

5. Which constructs an anonymous inner class instance?

- [A.](#)Runnable r = new Runnable() { };
- [B.](#)Runnable r = new Runnable(public void run() { });
- [C.](#)Runnable r = new Runnable { public void run(){} };
- [D.](#)System.out.println(new Runnable() {public void run() { } });

D

```

6. class Foo
{
    class Bar{ }
}
class Test
{
    public static void main (String [] args)
    {
        Foo f = new Foo();
        /* Line 10: Missing statement ? */
    }
}

```

which statement, inserted at line 10, creates an instance of *Bar*?

- [A.](#) Foo.Bar b = new Foo.Bar();
- [B.](#) Foo.Bar b = f.new Bar();
- [C.](#) Bar b = new f.Bar();
- [D.](#) Bar b = f.new Bar();

B

```

7. public class MyOuter
{
    public static class MyInner
    {
        public static void foo() { }
    }
}

```

which statement, if placed in a class other than *MyOuter* or *MyInner*, instantiates an instance of the nested class?

- [A.](#) MyOuter.MyInner m = new MyOuter.MyInner();
- [B.](#) MyOuter.MyInner mi = new MyInner();
MyOuter m = new MyOuter();
- [C.](#) MyOuter.MyInner mi = m.new MyOuter.MyInner();
- [D.](#) MyInner mi = new MyOuter.MyInner();

A

1. What will be the output of the program?

```

public class Test
{
    public static void main(String[] args)
    {
        int x = 0;
        assert (x > 0) ? "assertion failed" : "assertion passed" ;
        System.out.println("finished");
    }
}

```

- [A.](#) finished
- [B.](#) Compilation fails.
- [C.](#) An *AssertionError* is thrown and finished is output.
- [D.](#) An *AssertionError* is thrown with the message "assertion failed."

B

```

2. public class Test
{
    public void foo()
    {
        assert false; /* Line 5 */
        assert false; /* Line 6 */
    }
    public void bar()
    {
        while(true)
        {
            assert false; /* Line 12 */
        }
        assert false; /* Line 14 */
    }
}

```

What causes compilation to fail?

- [A.](#) Line 5
- [B.](#) Line 6
- [C.](#) Line 12
- [D.](#) Line 14

3. What will be the output of the program?

```

public class Test
{
    public static int y;
    public static void foo(int x)
    {
        System.out.print("foo ");
        y = x;
    }
    public static int bar(int z)
    {
        System.out.print("bar ");
        return y = z;
    }
    public static void main(String [] args )
    {
        int t = 0;
        assert t > 0 : bar(7);
        assert t > 1 : foo(8); /* Line 18 */
        System.out.println("done ");
    }
}

```

- [A.](#) bar
- [B.](#) bar done
- [C.](#) foo done
- [D.](#) Compilation fails

D

4. What will be the output of the program (when you run with the -ea option) ?

```
public class Test
{
    public static void main(String[] args)
    {
        int x = 0;
        assert (x > 0) : "assertion failed"; /* Line 6 */
        System.out.println("finished");
    }
}
```

[A.](#) finished

[B.](#) Compilation fails.

[C.](#) An AssertionError is thrown.

[D.](#) An AssertionError is thrown and finished is output.

C

5. public class Test2

```
{
    public static int x;
    public static int foo(int y)
    {
        return y * 2;
    }
    public static void main(String [] args)
    {
        int z = 5;
        assert z > 0; /* Line 11 */
        assert z > 2: foo(z); /* Line 12 */
        if ( z < 7 )
            assert z > 4; /* Line 14 */

        switch (z)
        {
            case 4: System.out.println("4 ");
            case 5: System.out.println("5 ");
            default: assert z < 10;
        }

        if ( z < 10 )
            assert z > 4: z++; /* Line 22 */
        System.out.println(z);
    }
}
```

which line is an example of an inappropriate use of assertions?

[A.](#) Line 11

[B.](#) Line 12

[C.](#) Line 14

[D.](#) Line 22

D

1. You want subclasses in any package to have access to members of a superclass. Which is the most restrictive access that accomplishes this objective?

[A.](#) public

[B.](#) private

[C.](#) protected

[D.](#) transient

C


```

2. public class Outer
{
    public void someOuterMethod()
    {
        //Line 5
    }
    public class Inner { }

    public static void main(String[] argv)
    {
        Outer ot = new Outer();
        //Line 10
    }
}

```

Which of the following code fragments inserted, will allow to compile?

- [A.](#) new Inner(); //At line 5
- [B.](#) new Inner(); //At line 10
- [C.](#) new ot.Inner(); //At line 10
- [D.](#) new Outer.Inner(); //At line 10

A

```

3. interface Base
{
    boolean m1 ();
    byte m2(short s);
}

```

which two code fragments will compile?

- 1. *interface Base2 implements Base {}*
- 2. *abstract class Class2 extends Base*
{ public boolean m1(){ return true; }}
- 3. *abstract class Class2 implements Base {}*
- 4. *abstract class Class2 implements Base*
{ public boolean m1(){ return (7 > 4); }}
- 5. *abstract class Class2 implements Base*
{ protected boolean m1(){ return (5 > 7) ;}}

- [A.](#) 1 and 2
- [C.](#) 3 and 4

- [B.](#) 2 and 3
- [D.](#) 1 and 5

C

4. Which three form part of correct array declarations?

- 1. public int a []
- 2. static int [] a
- 3. public [] int a
- 4. private int a [3]
- 5. private int [3] a []
- 6. public final int [] a

- [A.](#) 1, 3, 4
- [C.](#) 1, 2, 6

- [B.](#) 2, 4, 5
- [D.](#) 2, 5, 6

C

6. What is the most restrictive access modifier that will allow members of one class to have access to members of another class in the same package?

[A.](#)public

[B.](#)abstract

[C.](#)protected

[D.](#)synchronized

[E.](#)default access

E

7. Which of the following is/are legal method declarations?

1. protected abstract void m1();

2. static final void m1() {}

3. synchronized public final void m1() {}

4. private native void m1();

[A.](#)1 and 3

[B.](#)2 and 4

[C.](#)1 only

[D.](#)All of them are legal declarations.

D

8. Which cause a compiler error?

[A.](#)int[] scores = {3, 5, 7};

[B.](#)int [][] scores = {2,7,6}, {9,3,45};

[C.](#)String cats[] = {"Fluffy", "Spot", "Zeus"};

[D.](#)boolean results[] = new boolean [] {true, false, true};

[E.](#)Integer results[] = {new Integer(3), new Integer(5), new Integer(8)};

B

9. Which three are valid method signatures in an interface?

1. private int getArea();

2. public float getVol(float x);

3. public void main(String [] args);

4. public static void main(String [] args);

5. boolean setFlag(Boolean [] test);

[A.](#)1 and 2

[B.](#)2, 3 and 5

[C.](#)3, 4, and 5

[D.](#)2 and 4

B

10. You want a class to have access to members of another class in the same package. Which is the most restrictive access that accomplishes this objective?

[A.](#)public

[B.](#)private

[C.](#)protected

[D.](#)default access

D

11. What is the widest valid returnType for methodA in line 3?

```
public class ReturnIt
{
    returnType methodA(byte x, double y) /* Line 3 */
    {
        return (long)x / y * 2;
    }
}
```

[A.int](#)

[B.byte](#)

[C.long](#)

[D.double](#)

D

12. class A

```
{
    protected int method1(int a, int b)
    {
        return 0;
    }
}
```

Which is valid in a class that extends *class A*?

[A.public](#) int method1(int a, int b) {return 0; }

[B.private](#) int method1(int a, int b) { return 0; }

[C.public](#) short method1(int a, int b) { return 0; }

[D.static](#) protected int method1(int a, int b) { return 0; }

A

13. Which one creates an instance of an array?

[A.int](#)[] ia = new int[15];

[B.float](#) fa = new float[20];

[C.char](#)[] ca = "Some String";

[D.int](#) ia[] [] = { 4, 5, 6 }, { 1,2,3 };

A

14. Which two of the following are legal declarations for nonnested classes and interfaces?

1. final abstract class Test {}

2. public static interface Test {}

3. final public class Test {}

4. protected abstract class Test {}

5. protected interface Test {}

6. abstract public class Test {}

[A.1](#) and 4

[B.2](#) and 5

[C.3](#) and 6

[D.4](#) and 6

C

15. Which of the following class level (nonlocal) variable declarations will not compile?

[A.protected](#) int a;

[B.transient](#) int b = 3;

[C.private](#) synchronized int e;

[D.volatile](#) int d;

C

16. Which two cause a compiler error?

1. `float[] f = new float(3);`
2. `float f2[] = new float[];`
3. `float[]f1 = new float[3];`
4. `float f3[] = new float[3];`
5. `float f5[] = {1.0f, 2.0f, 2.0f};`

[A](#). 2, 4

[B](#). 3, 5

[C](#). 4, 5

[D](#). 1, 2

D

17. Given a method in a protected class, what access modifier do you use to restrict access to that method to only the other members of the same class?

[A](#). final

[B](#). static

[C](#). private

[D](#). protected

[E](#). volatile

C

18. Which is a valid declaration within an interface?

[A](#). `public static short stop = 23;`

[B](#). `protected short stop = 23;`

[C](#). `transient short stop = 23;`

[D](#). `final void madness(short stop);`

A

1. What will be the output of the program?

```
public class Foo
{
    public static void main(String[] args)
    {
        try
        {
            return;
        }
        finally
        {
            System.out.println( "Finally" );
        }
    }
}
```

[A](#). Finally

[B](#). Compilation fails.

[C](#). The code runs with no output.

[D](#). An exception is thrown at runtime.

A

2. What will be the output of the program?

```
try
{
    int x = 0;
    int y = 5 / x;
}
catch (Exception e)
{
    System.out.println("Exception");
}
catch (ArithmeticException ae)
{
    System.out.println(" Arithmetic Exception");
}
System.out.println("finished");
```

[A.](#) finished

[C.](#) Compilation fails.

[B.](#) Exception

[D.](#) Arithmetic Exception

C

3. What will be the output of the program?

```
public class X
{
    public static void main(String [] args)
    {
        try
        {
            badMethod();
            System.out.print("A");
        }
        catch (Exception ex)
        {
            System.out.print("B");
        }
        finally
        {
            System.out.print("C");
        }
        System.out.print("D");
    }
    public static void badMethod()
    {
        throw new Error(); /* Line 22 */
    }
}
```

[A.](#) ABCD

[B.](#) Compilation fails.

[C.](#) C is printed before exiting with an error message.

[D.](#) BC is printed before exiting with an error message.

C

4. What will be the output of the program?

```
public class X
{
    public static void main(String [] args)
    {
        try
        {
            badMethod();
            System.out.print("A");
        }
        catch (RuntimeException ex) /* Line 10 */
        {
            System.out.print("B");
        }
        catch (Exception ex1)
        {
            System.out.print("C");
        }
        finally
        {
            System.out.print("D");
        }
        System.out.print("E");
    }
    public static void badMethod()
    {
        throw new RuntimeException();
    }
}
```

[A](#).BD
[C](#).BDE

[B](#).BCD
[D](#).BCDE

C

5. What will be the output of the program?

```
public class RTExcept
{
    public static void throwit ()
    {
        System.out.print("throwit ");
        throw new RuntimeException();
    }
    public static void main(String [] args)
    {
        try
        {
            System.out.print("hello ");
            throwit();
        }
        catch (Exception re )
        {
            System.out.print("caught ");
        }
        finally
        {
            System.out.print("finally ");
        }
        System.out.println("after ");
    }
}
```

- [A.hello throwit caught](#)
- [B.Compilation fails](#)
- [C.hello throwit *RuntimeException* caught after](#)
- [D.hello throwit caught finally after](#)

D

6. What will be the output of the program?

```
public class Test
{
    public static void aMethod() throws Exception
    {
        try /* Line 5 */
        {
            throw new Exception(); /* Line 7 */
        }
        finally /* Line 9 */
        {
            System.out.print("finally "); /* Line 11 */
        }
    }
    public static void main(String args[])
    {
        try
        {
            aMethod();
        }
        catch (Exception e) /* Line 20 */
        {
            System.out.print("exception ");
        }
        System.out.print("finished"); /* Line 24 */
    }
}
```

- [A.finally](#)
- [B.exception finished](#)
- [C.finally exception finished](#)
- [D.Compilation fails](#)

C

7. What will be the output of the program?

```
public class X
{
    public static void main(String [] args)
    {
        try
        {
            badMethod();
            System.out.print("A");
        }
        catch (Exception ex)
        {
            System.out.print("B");
        }
        finally
        {
            System.out.print("C");
        }
    }
}
```

```

        System.out.print("D");
    }
    public static void badMethod() {}
}

```

[A.AC](#) [B.BC](#)
[C.ACD](#) [D.ABCD](#)

C

8. What will be the output of the program?

```

public class X
{
    public static void main(String [] args)
    {
        try
        {
            badMethod(); /* Line 7 */
            System.out.print("A");
        }
        catch (Exception ex) /* Line 10 */
        {
            System.out.print("B"); /* Line 12 */
        }
        finally /* Line 14 */
        {
            System.out.print("C"); /* Line 16 */
        }
        System.out.print("D"); /* Line 18 */
    }
    public static void badMethod()
    {
        throw new RuntimeException();
    }
}

```

[A.AB](#) [B.BC](#)
[C.ABC](#) [D.BCD](#)

D

9. What will be the output of the program?

```

public class MyProgram
{
    public static void main(String args[])
    {
        try
        {
            System.out.print("Hello world ");
        }
        finally
        {
            System.out.println("Finally executing ");
        }
    }
}

```

- [A.Nothing.](#) The program will not compile because no exceptions are specified.
[B.Nothing.](#) The program will not compile because no catch clauses are specified.
[C.Hello world.](#)
[D.Hello world Finally executing](#)

D

10. What will be the output of the program?

```
class Exc0 extends Exception { }
class Exc1 extends Exc0 { } /* Line 2 */
public class Test
{
    public static void main(String args[])
    {
        try
        {
            throw new Exc1(); /* Line 9 */
        }
        catch (Exc0 e0) /* Line 11 */
        {
            System.out.println("Ex0 caught");
        }
        catch (Exception e)
        {
            System.out.println("exception caught");
        }
    }
}
```

[A.Ex0 caught](#)

[B.exception caught](#)

[C.Compilation fails because of an error at line 2.](#)

[D.Compilation fails because of an error at line 9.](#)

A

1. What is the name of the method used to start a thread execution?

[A.init\(\);](#)

[B.start\(\);](#)

[C.run\(\);](#)

[D.resume\(\);](#)

B

2. Which two are valid constructors for Thread?

1. Thread(Runnable r, String name)

2. Thread()

3. Thread(int priority)

4. Thread(Runnable r, ThreadGroup g)

5. Thread(Runnable r, int priority)

[A.1 and 3](#)

[B.2 and 4](#)

[C.1 and 2](#)

[D.2 and 5](#)

C

3. Which three are methods of the Object class?

1. notify();

2. notifyAll();

3. isInterrupted();

4. synchronized();

5. interrupt();

6. wait(long msecs);

7. sleep(long msecs);

8. `yield()`;

[A.](#) 1, 2, 4

[B.](#) 2, 4, 5

[C.](#) 1, 2, 6

[D.](#) 2, 3, 4

C

4. `class X implements Runnable`

```
{
    public static void main(String args[])
    {
        /* Missing code? */
    }
    public void run() {}
}
```

Which of the following line of code is suitable to start a thread ?

[A.](#) `Thread t = new Thread(X);`

[B.](#) `Thread t = new Thread(X); t.start();`

[C.](#) `X run = new X(); Thread t = new Thread(run); t.start();`

[D.](#) `Thread t = new Thread(); x.run();`

C

5. Which cannot directly cause a thread to stop executing?

[A.](#) Calling the *SetPriority()* method on a *Thread* object.

[B.](#) Calling the *wait()* method on an object.

[C.](#) Calling *notify()* method on an object.

[D.](#) Calling *read()* method on an *InputStream* object.

C

6. Which two of the following methods are defined in class `Thread`?

1. `start()`

2. `wait()`

3. `notify()`

4. `run()`

5. `terminate()`

[A.](#) 1 and 4

[B.](#) 2 and 3

[C.](#) 3 and 4

[D.](#) 2 and 4

A

7. Which three guarantee that a thread will leave the running state?

1. `yield()`

2. `wait()`

3. `notify()`

4. `notifyAll()`

5. `sleep(1000)`

6. `aLiveThread.join()`

7. `Thread.killThread()`

[A.](#) 1, 2 and 4

[B.](#) 2, 5 and 6

[C.](#) 3, 4 and 7

[D.](#) 4, 5 and 7

B

8. Which of the following will directly stop the execution of a Thread?

[A.wait\(\)](#)

[B.notify\(\)](#)

[C.notifyall\(\)](#)

[D.exits synchronized code](#)

A

9. Which method must be defined by a class implementing the *java.lang.Runnable* interface?

[A.void run\(\)](#)

[B.public void run\(\)](#)

[C.public void start\(\)](#)

[D.void run\(int priority\)](#)

B

10. Which will contain the body of the thread?

[A.run\(\);](#)

[B.start\(\);](#)

[C.stop\(\);](#)

[D.main\(\);](#)

A

11. Which method registers a thread in a thread scheduler?

[A.run\(\);](#)

[B.construct\(\);](#)

[C.start\(\);](#)

[D.register\(\);](#)

C

12. Assume the following method is properly synchronized and called from a thread A on an object B:

```
wait(2000);
```

After calling this method, when will the thread A become a candidate to get another turn at the CPU?

[A.After thread A is notified, or after two seconds.](#)

[B.After the lock on B is released, or after two seconds.](#)

[C.Two seconds after thread A is notified.](#)

[D.Two seconds after lock B is released.](#)

A

13. Which of the following will not directly cause a thread to stop?

[A.notify\(\)](#)

[B.wait\(\)](#)

[C.InputStream access](#)

[D.sleep\(\)](#)

A

14. Which class or interface defines the *wait()*, *notify()*, and *notifyAll()* methods?

[A.Object](#)

[B.Thread](#)

[C.Runnable](#)

[D.Class](#)

A

```
15. public class MyRunnable implements Runnable
{
    public void run()
    {
        // some code here
    }
}
```

which of these will create and start this thread?

[A.new Runnable\(MyRunnable\).start\(\);](#)

[B.new Thread\(MyRunnable\).run\(\);](#)

[C.new Thread\(new MyRunnable\(\)\).start\(\);](#)

[D.](#)new MyRunnable().start();

C

1. What is the value of "d" after this line of code has been executed?

double d = Math.round (2.5 + Math.random());

[A.](#)2

[B.](#)3

[C.](#)4

[D.](#)2.5

B

2. Which of the following would compile without error?

[A.](#)int a = Math.abs(-5);

[B.](#)int b = Math.abs(5.0);

[C.](#)int c = Math.abs(5.5F);

[D.](#)int d = Math.abs(5L);

A

3. Which of the following are valid calls to *Math.max*?

1. Math.max(1,4)

2. Math.max(2.3, 5)

3. Math.max(1, 3, 5, 7)

4. Math.max(-1.5, -2.8f)

[A.](#)1, 2 and 4

[B.](#)2, 3 and 4

[C.](#)1, 2 and 3

[D.](#)3 and 4

A

4. public class Myfile

```
{
    public static void main (String[] args)
    {
        String biz = args[1];
        String baz = args[2];
        String rip = args[3];
        System.out.println("Arg is " + rip);
    }
}
```

Select how you would start the program to cause it to print: *Arg is 2*

[A.](#)java Myfile 222

[B.](#)java Myfile 1 2 2 3 4

[C.](#)java Myfile 1 3 2 2

[D.](#)java Myfile 0 1 2 3

C

1. What will be the output of the program?

```
class PassA
{
    public static void main(String [] args)
    {
        PassA p = new PassA();
        p.start();
    }

    void start()
    {
        long [] a1 = {3,4,5};
        long [] a2 = fix(a1);
        System.out.print(a1[0] + a1[1] + a1[2] + " ");
        System.out.println(a2[0] + a2[1] + a2[2]);
    }

    long [] fix(long [] a3)
    {
        a3[1] = 7;
        return a3;
    }
}
```

[A.12 15](#)

[B.15 15](#)

[C.3 4 5 3 7 5](#)

[D.3 7 5 3 7 5](#)

B

2. What will be the output of the program?

```
class Test
{
    public static void main(String [] args)
    {
        Test p = new Test();
        p.start();
    }

    void start()
    {
        boolean b1 = false;
        boolean b2 = fix(b1);
        System.out.println(b1 + " " + b2);
    }

    boolean fix(boolean b1)
    {
        b1 = true;
        return b1;
    }
}
```

[A.true true](#)

[B.false true](#)

[C.true false](#)

[D.false false](#)

B

3. What will be the output of the program?

```
class PassS
{
    public static void main(String [] args)
    {
        PassS p = new PassS();
        p.start();
    }

    void start()
    {
        String s1 = "slip";
        String s2 = fix(s1);
        System.out.println(s1 + " " + s2);
    }

    String fix(String s1)
    {
        s1 = s1 + "stream";
        System.out.print(s1 + " ");
        return "stream";
    }
}
```

[A.slip stream](#)

[B.slipstream stream](#)

[C.stream slip stream](#)

[D.slipstream slip stream](#)

D

4. What will be the output of the program?

```
class BitShift
{
    public static void main(String [] args)
    {
        int x = 0x80000000;
        System.out.print(x + " and ");
        x = x >>> 31;
        System.out.println(x);
    }
}
```

[A.-2147483648 and 1](#)

[B.0x80000000 and 0x00000001](#)

[C.-2147483648 and -1](#)

[D.1 and -2147483648](#)

A

5. What will be the output of the program?

```
class Equals
{
    public static void main(String [] args)
    {
        int x = 100;
        double y = 100.1;
        boolean b = (x = y); /* Line 7 */
        System.out.println(b);
    }
}
```

[A.true](#)

[B.false](#)

[C.Compilation fails](#)

[D.An exception is thrown at runtime](#)

C

6. What will be the output of the program?

```
class Test
{
    public static void main(String [] args)
    {
        int x=20;
        String sup = (x < 15) ? "small" : (x < 22)? "tiny" : "huge";
        System.out.println(sup);
    }
}
```

[A.small](#)

[C.huge](#)

[B.tiny](#)

[D.Compilation fails](#)

B

7. What will be the output of the program?

```
class Test
{
    public static void main(String [] args)
    {
        int x= 0;
        int y= 0;
        for (int z = 0; z < 5; z++)
        {
            if (( ++x > 2 ) && (++y > 2))
            {
                x++;
            }
        }
        System.out.println(x + " " + y);
    }
}
```

[A.5 2](#)

[C.6 3](#)

[B.5 3](#)

[D.6 4](#)

C

8. What will be the output of the program?

```
class Test
{
    public static void main(String [] args)
    {
        int x= 0;
        int y= 0;
        for (int z = 0; z < 5; z++)
        {
            if (( ++x > 2 ) || (++y > 2))
            {
                x++;
            }
        }
        System.out.println(x + " " + y);
    }
}
```

[A.5 3](#)

[B.8 2](#)

[C.8 3](#)

[D.8 5](#)

B

9. What will be the output of the program?

```
class Bitwise
{
    public static void main(String [] args)
    {
        int x = 11 & 9;
        int y = x ^ 3;
        System.out.println( y | 12 );
    }
}
```

[A.0](#)

[B.7](#)

[C.8](#)

[D.14](#)

D

10. What will be the output of the program?

```
class SSBool
{
    public static void main(String [] args)
    {
        boolean b1 = true;
        boolean b2 = false;
        boolean b3 = true;
        if ( b1 & b2 | b2 & b3 | b2 ) /* Line 8 */
            System.out.print("ok ");
        if ( b1 & b2 | b2 & b3 | b2 | b1 ) /*Line 10*/
            System.out.println("dokey");
    }
}
```

[A.ok](#)

[B.dokey](#)

[C.ok dokey](#)

[D.No output is produced](#)

[E.Compilation error](#)

B

11. What will be the output of the program?

```
class SC2
{
    public static void main(String [] args)
    {
        SC2 s = new SC2();
        s.start();
    }

    void start()
    {
        int a = 3;
        int b = 4;
        System.out.print(" " + 7 + 2 + " ");
        System.out.print(a + b);
        System.out.print(" " + a + b + " ");
        System.out.print(foo() + a + b + " ");
        System.out.println(a + b + foo());
    }

    String foo()
    {
        return "foo";
    }
}
```

[A.9 7 7 foo 7 7foo](#)

[B.72 34 34 foo34 34foo](#)

[C.9 7 7 foo34 34foo](#)

[D.72 7 34 foo34 7foo](#)

D

12. What will be the output of the program?

```
class Test
{
    static int s;
    public static void main(String [] args)
    {
        Test p = new Test();
        p.start();
        System.out.println(s);
    }

    void start()
    {
        int x = 7;
        twice(x);
        System.out.print(x + " ");
    }

    void twice(int x)
    {
        x = x*2;
        s = x;
    }
}
```

[A.7 7](#)

[C.14 0](#)

[B.7 14](#)

[D.14 14](#)

B

13. What will be the output of the program?

```
class Two
{
    byte x;
}

class Pass0
{
    public static void main(String [] args)
    {
        Pass0 p = new Pass0();
        p.start();
    }

    void start()
    {
        Two t = new Two();
        System.out.print(t.x + " ");
        Two t2 = fix(t);
        System.out.println(t.x + " " + t2.x);
    }

    Two fix(Two tt)
    {
        tt.x = 42;
        return tt;
    }
}
```

[A](#).null null 42

[C](#).0 42 42

[B](#).0 0 42

[D](#).0 0 0

C

14. What will be the output of the program?

```
class BoolArray
{
    boolean [] b = new boolean[3];
    int count = 0;

    void set(boolean [] x, int i)
    {
        x[i] = true;
        ++count;
    }

    public static void main(String [] args)
    {
        BoolArray ba = new BoolArray();
        ba.set(ba.b, 0);
        ba.set(ba.b, 2);
        ba.test();
    }

    void test()
    {
        if ( b[0] && b[1] | b[2] )
            count++;
        if ( b[1] && b[(++count - 2)] )
            count += 7;
        System.out.println("count = " + count);
    }
}
```

```

    }
}
A.count = 0
C.count = 3
B.count = 2
D.count = 4

```

C

15. What will be the output of the program?

```

public class Test
{
    public static void leftshift(int i, int j)
    {
        i <<= j;
    }
    public static void main(String args[])
    {
        int i = 4, j = 2;
        leftshift(i, j);
        System.out.println(i);
    }
}
A.2
C.8
B.4
D.16

```

B

1. Suppose that you would like to create an instance of a new *Map* that has an iteration order that is the same as the iteration order of an existing instance of a *Map*. Which concrete implementation of the *Map* interface should be used for the new instance?

- [A.](#) TreeMap
- [B.](#) HashMap
- [C.](#) LinkedHashMap
- [D.](#) The answer depends on the implementation of the existing instance.

C

2. Which class does not override the *equals()* and *hashCode()* methods, inheriting them directly from class *Object*?

- [A.](#) java.lang.String
- [B.](#) java.lang.Double
- [C.](#) java.lang.StringBuffer
- [D.](#) java.lang.Character

C

3. Which collection class allows you to grow or shrink its size and provides indexed access to its elements, but whose methods are not synchronized?

- [A.](#) java.util.HashSet
- [B.](#) java.util.LinkedHashSet
- [C.](#) java.util.List
- [D.](#) java.util.ArrayList

D

4. You need to store elements in a collection that guarantees that no duplicates are stored and all elements can be accessed in natural order. Which interface provides that capability?

- [A.](#) java.util.Map
- [B.](#) java.util.Set
- [C.](#) java.util.List
- [D.](#) java.util.Collection

B

5. Which interface does *java.util.Hashtable* implement?

- [A.](#) Java.util.Map
- [B.](#) Java.util.List
- [C.](#) Java.util.HashTable
- [D.](#) Java.util.Collection

A

6. Which interface provides the capability to store objects using a key-value pair?

[A. Java.util.Map](#)

[B. Java.util.Set](#)

[C. Java.util.List](#)

[D. Java.util.Collection](#)

A

7. Which collection class allows you to associate its elements with key values, and allows you to retrieve objects in FIFO (first-in, first-out) sequence?

[A. java.util.ArrayList](#)

[B. java.util.LinkedHashMap](#)

[C. java.util.HashMap](#)

[D. java.util.TreeMap](#)

B

8. Which collection class allows you to access its elements by associating a key with an element's value, and provides synchronization?

[A. java.util.SortedMap](#)

[B. java.util.TreeMap](#)

[C. java.util.TreeSet](#)

[D. java.util.Hashtable](#)

D

9. Which is valid declaration of a float?

[A. float f = 1F;](#)

[B. float f = 1.0;](#)

[C. float f = "1";](#)

[D. float f = 1.0d;](#)

A

10. /* Missing Statement ? */

```
public class foo
```

```
{
```

```
    public static void main(String[] args) throws Exception
```

```
    {
```

```
        java.io.PrintWriter out = new java.io.PrintWriter();
```

```
        new java.io.OutputStreamWriter(System.out, true);
```

```
        out.println("Hello");
```

```
    }
```

```
}
```

What line of code should replace the missing statement to make this program compile?

[A. No statement required.](#)

[B. import java.io.*;](#)

[C. include java.io.*;](#)

[D. import java.io.PrintWriter;](#)

A

11. What is the numerical range of char?

[A. 0 to 32767](#)

[B. 0 to 65535](#)

[C. -256 to 255](#)

[D. -32768 to 32767](#)

B

12. Which of the following are Java reserved words?

1. run

2. import

3. default

4. implement

[A. 1 and 2](#)

[B. 2 and 3](#)

[C. 3 and 4](#)

[D. 2 and 4](#)

B

```

1. void start() {
    A a = new A();
    B b = new B();
    a.s(b);
    b = null; /* Line 5 */
    a = null; /* Line 6 */
    System.out.println("start completed"); /* Line 7 */
}

```

When is the B object, created in line 3, eligible for garbage collection?

[A.](#) after line 5

[B.](#) after line 6

[C.](#) after line 7

[D.](#) There is no way to be absolutely certain.

D

```

2. class HappyGarbage01
{
    public static void main(String args[])
    {
        HappyGarbage01 h = new HappyGarbage01();
        h.methodA(); /* Line 6 */
    }
    Object methodA()
    {
        Object obj1 = new Object();
        Object [] obj2 = new Object[1];
        obj2[0] = obj1;
        obj1 = null;
        return obj2[0];
    }
}

```

Where will be the most chance of the garbage collector being invoked?

[A.](#) After line 9

[B.](#) After line 10

[C.](#) After line 11

[D.](#) Garbage collector never invoked in *methodA()*

D

```

3. class Bar { }
   class Test
   {
       Bar doBar()
       {
           Bar b = new Bar(); /* Line 6 */
           return b; /* Line 7 */
       }
       public static void main (String args[])
       {
           Test t = new Test(); /* Line 11 */
           Bar newBar = t.doBar(); /* Line 12 */
           System.out.println("newBar");
           newBar = new Bar(); /* Line 14 */
           System.out.println("finishing"); /* Line 15 */
       }
   }

```

At what point is the *Bar* object, created on line 6, eligible for garbage collection?

[A.](#) after line 12

[B.](#) after line 14

[C.](#) after line 7, when *doBar()* completes

[D.](#)after line 15, when *main()* completes

B

4. class Test

```
{
    private Demo d;
    void start()
    {
        d = new Demo();
        this.takeDemo(d); /* Line 7 */
    } /* Line 8 */
    void takeDemo(Demo demo)
    {
        demo = null;
        demo = new Demo();
    }
}
```

When is the Demo object eligible for garbage collection?

[A.](#)After line 7

[B.](#)After line 8

[C.](#)After the *start()* method completes

[D.](#)When the instance running this code is made eligible for garbage collection.

D

5. public class X

```
{
    public static void main(String [] args)
    {
        X x = new X();
        X x2 = m1(x); /* Line 6 */
        X x4 = new X();
        x2 = x4; /* Line 8 */
        doComplexStuff();
    }
    static X m1(X mx)
    {
        mx = new X();
        return mx;
    }
}
```

After line 8 runs. how many objects are eligible for garbage collection?

[A.](#)0

[B.](#)1

[C.](#)2

[D.](#)3

B

6. public Object m()

```
{
    Object o = new Float(3.14F);
    Object [] oa = new Object[1];
    oa[0] = o; /* Line 5 */
    o = null; /* Line 6 */
    oa[0] = null; /* Line 7 */
    return o; /* Line 8 */
}
```

When is the *Float* object, created in line 3, eligible for garbage collection?

[A.](#)just after line 5

[B.](#)just after line 6

[C.](#)just after line 7

[D.](#)just after line 8

C

```

7. class X2
{
    public X2 x;
    public static void main(String [] args)
    {
        X2 x2 = new X2(); /* Line 6 */
        X2 x3 = new X2(); /* Line 7 */
        x2.x = x3;
        x3.x = x2;
        x2 = new X2();
        x3 = x2; /* Line 11 */
        doComplexStuff();
    }
}

```

after line 11 runs, how many objects are eligible for garbage collection?

- | | |
|----------------------|----------------------|
| A. 0 | B. 1 |
| C. 2 | D. 3 |

C

8. What allows the programmer to destroy an object x?

- [A.](#)x.delete()
- [B.](#)x.finalize()
- [C.](#)Runtime.getRuntime().gc()
- [D.](#)Only the garbage collection system can destroy an object.

D