Question := 1

Given the code fragment:

```
   int [] [] array2D = { {0,1,2} , {3,4,5,6} } ;
   System.out.print (array2D [0].length + " ");
   System.out.print (array2D [1].getClass().isArray () + " ");
   System.out.println (array2D [0][1]);
```

What is the result?

A. 3 false 1

B. 2 true 3

C. 2 false 3

D. 3 true 1

E. 3 false 3

F. 2 true 1

G. 2 false 1

Question := 2

Which two are valid instantiations and initializations of a multi dimensional array?

A)  int[] [] array2D = { {0,1,2,4}, {5,6} };

B)  int[] [] array2D = new int [2] [2];
array2D [0] [0] = 1;
array2D[0] [1] = 2;
array2D[1] [0] = 3;
array2D[1] [1] = 4;

C)  int [] [] [] array3D = { {0.1}, {2,3}, {4,5} };

D)  int []array = {0,1};
int[] [] [] array3D = new int [2] [2]  [2];
array3D [0] [0] = array;
array3D[0] [1] = array;
array3D[1] [0] = array;
array3D[1] [1] = array;

E)  int[] []  array2D = {0,1};

A. Option A

B. Option B

C. Option C

D. Option D

E. Option E

Question := 3

Given the code fragment:

```
int b =4;
b--;
System.out.println (b);
```

What is the result?

A. 2
B. 1
C. 3
D. 4

Question := 4

Given:

```
import java.io.IOException;

class Y {
        public static void main (String[] args)  {
             try {
                  doSomething();
}
             catch (RuntimeException e) {
                     System.out.println (e);
              }
        }
        static void doSomething()  {
              if (Math.random() > 0.5) throw new IOException() ;
           throw new RuntimeException();
      }
}
```

Which two actions, used independently, will permit this class to compile?

A. Adding throws IOException to the main() method signature
B. Adding throws IOException to the doSoomething() method signature
C. Adding throws IOException to the main() method signature and to the dosomething() method
D. Adding throws IOException to the dosomething() method signature and changing the catch argument to IOException
E. Adding throws IOException to the main() method signature and changing the catch argument to IOException

Question := 5

Given:

```
1.    public class SampleClass          {
2.          public static void main (String[] args)  {
3.                AnotherSampleClass  asc = new AnotherSampleClass ();
4.                  SampleClass   sc = new SampleClass ();
5.                   //insert code here
6.            }
7.     }
8.     class AnotherSampleClass extends SampleClass   {
9.     }
```

Which statement, when inserted into line 5, is valid change?

A. asc = sc;
B. sc = asc;
C. asc = (object) sc;
D. asc = sc.clone ()

Question := 6

Given:

```
class X {
    public static void main(String [] args)  {
      String theString = "Hello World";
      System.out.println (theString.charAt (11));
   }
 }
```

What is the result?

A. There is no output
B. d is output
C. A StringIndexOutOfBoundsException is thrown at runtime
D. An ArrayIndexOutOfBoundsException is thrown at runtime Real 14
E. A NullPointException is thrown at runtime
F. A StringArrayIndexOutOfBoundsException is thrown at runtime

Question := 7

Given:

```
package handy.dandy;
public class Keystroke  {
       public void typeExclamatin() {
               System.out.println (“!”);
        }
}
```

and

```
1.    package handy;
2.    public class Greet {
3.            public static void main (String[] args) {
4.                  String greeting = “Hello”;
5.                  System.out.print (greeting);
6.                  Keystroke stroke = new Keystroke ();
7.                  stroke.typeExclamation();
8.             }
9.    }
```

What three modifications, made independently, made to class greet, enable the code to compile and run?

A. line 6 replaced with handy.dandy.Keystroke stroke = new KeyStroke ( );
B. line 6 replaced with handy.*.KeyStroke = new KeyStroke ( );
C. line 6 replaced with handy.dandy.KeyStroke Stroke = new handy.dandy.KeyStroke();
D. import handy.*; added before line 1
E. import handy.dandy.*; added after line 1
F. import handy.dandy.KeyStroke; added after line 1
G. import handy.dandy.KeyStroke.typeException(); added before line 1

Question := 8

Which two are valid declarations of a two-dimensional array?

A. int [] [] array2D;
B. int [2] [2] array2D;
C. int array2D [];
D. int [] array2D [];
E. int [] [] array2D [];

Question := 9

Given:

```
public class Main {
      public static void main (String[] args) throws Exception  {
            doSomething();
       }
      private static void doSomething() throws Exception {
            System.out.println(“Before if clause”);
            if (Math.random()>0.5) {
                throw new Exception();
            }
           System.out.println(“After if clause”);
```

```
    }
}
```

Which two are possible outputs?

A) Before if clause
Exception in thread “main” java.lang.Exception
at Main.doSomrthing( main.java:8)
at Main.main( main.java:3)
B) Before if clause
Exception in thread “main” java.lang.Exception
at Main.doSomrthing( main.java:8)
at Main.main( main.java:3)
After if clause

C) Exception in thread “main” java.lang.Exception
At Main.doSomrthing( main.java:8)
At Main.main( Main.java:3)

D) Before if clause
After if clause

A. Option A
B. Option B
C. Option C
D. Option D

Question := 10
Which three are bad practices?

A. Checking for ArrayIndexOutOfBoundsException when iterating through an array to determine when all elements have
B. Checking for Error and. If necessary, restarting the program to ensure that users are unaware problems
C. Checking for FileNotFoundException to inform a user that a filename entered is not valid
D. Checking for ArrayIndexoutofBoundsException and ensuring that the program can recover if one occur
E. Checking for an IOException and ensuring that the program can recover if one occurs

Question := 11
Given:

```
class X {}
class Y { Y ( ) { } }

class Z { Z (int i ) { } }
```

Which class has a default constructor?

A. X only
B. Y only
C. Z only
D. X and Y
E. Y and Z
F. X and Z
G. X, Y and Z

Question := 12

Given:

```
 class DoCompare4  {
      public static void main (String[ ] args)  {
              String [] table = {“aa”, “bb”, “cc” } ;
              int ii = 0;
              do
                   while (ii<table.length)
                          System.out.printIn (ii++);
              while(ii<table.length);

      }
}
```

What is the result?

A. 0 1 2
B. 1  2 3
C. 0  0 0
D. Compilation fails

Question := 13

Given the fragment:

```
Int[ ] array =
[1, 2, 3, 4, 5};
System,.arraycopy (aray, 2,array, 1,2);
```

```
System.out.print (aray[1]);
System.out.print (aray[4]);
```

What is the result?

A. 14
B. 15
C. 24
D. 25
E. 34
F. 35

## Question := 14

Given:

```
public class Main  {
       public static void main(String[] args)  {
              doSomething() ;
        }
       private static void doSomething ()  {
              doSomethingElse() ;
       }
        private static void doSomething () throws Exception {
              throw new Exception() ;
        }
}
```

Which approach ensures that the class can be compiled and run?

A. Put the throw new Exception() statement in the try block of try catch
B. Put the doSomethingElse() method in the try block of a try catch
C. Put the doSomething() method in the try block of a try catch
D. Put the doSomething() method and the doSomethingElse() method in the try block of a try catch

## Question := 15

Given:

```
class Overloading  {
     void x (int i)  {
            System.out.println ("one");
      }

      void x (String s)  {
            System.out.println ("two");
      }

      void x (double d)  {
            System.out.println ("three");
      }
      public static void main(String[] args)    {
            new Overloading().x (4.0);
       }
}
```

What is the result?

A. One
B. Two
C. Three
D. Compilation fails

Question := 16

Given a code fragment:

```
StringBuilder sb = new StringBuilder();
String h1 = "HelloWorld";
Sb.append ("Hello").append("World");
if(h1 == sb.toString ())  {
    System.out.println ("They match");
}
if(h1.equals (sb.toString()))   {
    System.out.println ("They really match");
}
```

What is the result?

A. They match
They real match
B. They really match
C. They match

D. Nothing is printed to the screen

Question := 17

Given:

```
class DoWhile1  {
     public static void main(String[ ] args)   {
           int ii = 2;
           do  {
                System.out.println(ii);
            } while (--ii);
      }
}
```

What is the result?

A. 2<br>
B. 2<br>
C. null<br>
D. an infinite loop<br>
E. compilation fails

Question := 18

Give:

```
class MyFive   {
     public static void main(String [] args)   {
              short ii;
              short jj = 0;
               for (ii= kk; ii > 6; ii-= 1)   {         // line x
                     jj++;
                }
                System.out.println ("jj =" +jj);
      }
}
```

What value should replace kk in line x to cause jj = 5 to be output?

A. -1

B. 1

C. 5

D. 8

E. 11

Question := 19

Given:

```
class SuperTest   {
         public static void main (String args []  )  {
             Statement1;
             Statement2;
             Statement3;
          }
}
class Shape  {
        public Shape ()  {
               System.out.println("Shape: constructor");
        }
         public void foo()   {
              System.out.println ("Shape:foo");
        }
}
class Square extends Shape  {
           public Square ()  {
                   super ();
            }
            public Square(String label)  {
                  System.out.println("Square: constructor");
            }
             public void foo()   {
                super.foo ()  ;
            }
            public void foo(String label)  {
                   System.out.println("Square: foo");
           }
}
```

What should statement1, statement2, and statement3, be respectively, in order to produce the result?

```
Shape: constructor
Square: foo
Shape: foo
```

A)   Square square = new Square (“bar”);

```
            square.foo (“bar”);
            square.foo ();
B)    Square square = new Square (“bar”);
            square.foo ();
            square.foo (“bar”);
C)    Square square = new Square ();
            square.foo ();
            square.foo (“bar”);

D)    Square square = new Square ();
            square.foo (“bar”);
            square.foo ();
E)    Square square = new Square ();
            square.foo ();
            square.foo ();
```

A. Option A
B. Option B
C. Option C
D. Option D
E. Option E

Question := 20

Given the code fragment:

```
public static void main(String[] args)  {
   String [] table = {"aa", "bb", "cc"};
   for (String ss: table)   {
      int ii = 0;
      while (ii < table.length)  {
         System.out.println (ii);
         ii++;
      }
      break;
   }
}
```

How many times is 2 printed?

A. Zero
B. Once
C. Twice
D. Thrice
E. It is not printed because compilation fails

### Question := 21

Which two will compile, and can be run successfully using the command:

Java fred1 hello walls

A.

```
class fread1{
     public static void main(String args) {
       System.out.println(args[1]);
     }
}
```

B.

```
class fread1{
     public static void main(String[] args) {
        System.out.println(args[2]);
     }
}
```

C.

```
class fread1{
     public static void main(String[] args) {
         System.out.println(args);
     }
}
```

D.

```
class fread1{
      public static void main(String[] args) {
           System.out.println(args[0]);
      }
}
```

### Question := 22

Given:

```
class Overloading {
       int x(double d)  {
            System.out.println ("one");
             return 0;
        }

        String x(double d)  {
              System.out.println ("two");
               return null;
        }
```

```
     double  x(double d)  {
          System.out.println ("three");
           return 0.0;
     }
    public static void main (String[] args)  {
       new Overloading() .x (4.0);
    }
}
```

What is the result?

A. One
B. Two
C. Three
D. Compilation fails

## Question := 23

Given the code fragment:

```
1. ArrayList<Integer> list = new ArrayList<>(1);

2. list.add(1001);

3. list.add(1002);

4. System.out.println(list.get(list.size()));
```

What is the result?

A. Compilation fails due to an error on line 1.
B. An exception is thrown at run time due to error on line 3
C. An exception is thrown at run time due to error on line 4
D. 1002

## Question := 24

Given the code fragment:

```
public class Q71 {
     public static void main(String[] args) {
          int [][] array2d = new int[2][3];
          System.out.println("Loading the data.");
          for ( int x = 0; x < array2d.length; x++) {
               for ( int y = 0; y < array2d[0].length; y++) {
                System.out.println(" x = " + x);
                System.out.println(" y = " + y);
                // insert load statement here.
            }
        }
        System.out.println("Modify the data. ");
        for ( int x = 0; x < array2d.length; x++) {
            for ( int y = 0; y < array2d[0].length; y++) {
                System.out.println(" x = " + x);
                System.out.println(" y = " + y);
                // insert modify statement here.
        }

    }
}
```

Which pair of load and modify statement should be inserted in the code?

The modify statement should modify the array's x row and y column value by multiplying it by 2

A. Load statement: array2d(x, y) = x + y;
Modify statement: array2d(x, y) = array2d(x, y) * 2
B. Load statement: array2d[x y] = x + y;
Modify statement: array2d[x y] = array2d[x y] * 2
C. Load statement: array2d[x, y] = x + y;
Modify statement: array2d[x, y] = array2d[x, y] * 2
D. Load statement: array2d[x][y] = x + y;
Modify statement: array2d[x][y] = array2d[x][y] * 2
E. Load statement: array2d[[x][y]] = x + y;
Modify statement: array2d[[x][y]] = array2d[[x][y]] * 2

Question := 25

```
1.class StaticMethods {
2.    static void one() {
3.    two();
4.    StaticMethods.two();
5.          three();
6.          StaticMethods.four();
7.    }
8.    static void two() {}
9.    void three() {
10.       one();
11.        StaticMethods.two();
12.        four();
13.        StaticMethods.four();
14.    }
15.    void four() {
16.    }
17.}
```

Which three lines are illegal?

A. line 3
B. line 4
C. line 5
D. line 6
E. line 10
F. line 11
G. line 12
H. line 13

Question := 26

Given:

```
public static void main(String[] args) {

try {

doSomething();

}

catch (SpecialException e) {

System.out.println(e);

}}

static void doSomething() {

int [] ages = new int[4];
ages[4] = 17;

doSomethingElse();
}

static void doSomethingElse() {

throw new SpecialException("Thrown at end of doSomething() method"); }

}
```

What is the output?

A. SpecialException: Thrown at end of doSomething() method
B. Error in thread "main" java.lang.
ArrayIndexOutOfBoundseror
C. Exception in thread "main" java.lang.ArrayIndexOutOfBoundsException: 4 at Main.doSomething(Main.ja
at Main.main(Main.java:4)
D. SpecialException: Thrown at end of doSomething() method at Main.doSomethingElse(Main.java:16)
at Main.doSomething(Main.java:13)
at Main.main(Main.java:4)

Question := 27

```
int [] array = {1,2,3,4,5};

for (int i: array) {

if ( i < 2) {

keyword1 ;

}

System.out.println(i);

if ( i == 3) {

keyword2 ;

}}
```

What should keyword1 and keyword2 be respectively, in oreder to produce output 2345?

A. continue, break
B. break, break

C. break, continue
D. continue, continue

Question := 28

```
Class StaticField {

public static void main(String[] args) {

StaticFied obj = new StaticField();

obj.i++;

StaticField.i++;

obj.i++;

System.out.println(StaticField.i + " "+ obj.i);

}

}
```

What is the result?

A. 10 10
B. 8 9
C. 9 8
D. 7 10

Question := 29

Given:

```
class Overloading {

int x(double d) {

System.out.println("one");

return 0;

}

String x(double d) {
}

System.out.println("two");

return null;

}

double x(double d) {

System.out.println("three");


}

public static void main(String[] args) {

new Overloading().x(4.0);
}

}
```

What is the result?

A. One
B. Two
C. Three
D. Compilation fails.

Question := 30

```
public class ForTest {

public static void main(String[] args) {

int[] arrar = {1,2,3};

for ( foo ) {

}

}

}
```

Which three are valid replacements for foo so that the program will compiled and run?

A. int i: array
B. int i = 0; i < 1; i++
C. ;;
D. ; i < 1; i++
E. ; i < 1;

Question := 31

Given the code fragment:

```
int b = 3;

if ( !(b > 3)) {

System.out.println("square ");

}{

System.out.println("circle ");

}

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

What is the result?

A. square...
B. circle...
C. squarecircle...
D. Compilation fails.

Question := 32

```
public class StringReplace {

public static void main(String[] args) {

String message = "Hi everyone!";

System.out.println("message = " + message.replace("e", "X")); }

}
```

What is the result?

A. message = Hi everyone!
B. message = Hi XvXryonX!
C. A compile time error is produced.
D. A runtime error is produced.
E. message =
F. message = Hi Xveryone!

Question := 33

Which three statements are benefits of encapsulation?

A. Allows a class implementation to change without changing t he clients
B. Protects confidential data from leaking out of the objects
C. Prevents code from causing exceptions
D. Enables the class implementation to protect its invariants
E. Permits classes to be combined into the same package
F. Enables multiple instances of the same class to be created safely

Question := 34

Given:

```
class Alpha   {
      int ns;
      static int s;
      Alpha (int ns) {
             if (s<ns)     {
                s = ns;
                this.ns = ns;
              }
       }
       void doPrint()   {
             System.out.println("ns = " + ns + " s = " + s);
       }
}
```

And,

```
class TestA   {
    public static void main(String[] args)   {
          Alpha ref1 = new Alpha(50);
          Alpha ref2 = new Alpha(125);
          Alpha ref3 = new Alpha(100);
          ref1.doPrint ();
          ref2.doPrint ();
          ref3.doPrint ();
    }
}
```

A. ns = 50 S = 125
ns = 125 S = 125
ns = 100 S = 125
B. ns = 50 S = 125
ns = 125 S = 125
ns = 0 S = 125
C. ns = 50 S = 50
ns = 125 S = 125
ns = 100 S = 100
D.  ns = 50 S = 50
ns = 125 S = 125
ns = 0 S = 125

Question := 35

Given the code fragment

```
class Test2  {
   int fvar;
   static int cvar;
   public static void main(String[] args)   {
       Test2 t = new Test2();
      //insert code here to write field variables
   }
}
```

Which code fragments, inserted independently, enable the code compile?

```
A. t.fvar = 200;
B. cvar = 400;
C. fvar = 200;
   cvar = 400;
D. this.fvar = 200;
  this.cvar = 400;
```

E. t.fvar = 200;
  Test2.cvar = 400;
F. this.fvar = 200;
  Test2.cvar = 400;

Question := 36
Given:

```
class Test   {
       int sum = 0;
       public void doCheck(int number)  {
             if (number% 2 == 0) {
                 break;
              }   else   {
                   for (int i = 0; i< number; i++)   {
                       sum  += i;
                   }
              }
       }
       public static void main(String[] args)   {
             Test obj = new Test();
              System.out.println("Red" + obj.sum);
               obj.doCheck(2);
              System.out.println("Orange" + obj.sum);
              obj.doCheck(3);
              System.out.println("Green" + obj.sum);
       }
}
```

What is the result?
A. Red 0
Orange 0
Green 3
B. Red 0
Orange 0
Green 6
C. Red 0
Orange 1
D. Green 4
E. Compilation fails

Question := 37
Given:

```
class X  {
        public void mX ()   {
               System.out.println("Xm1");
         }
}
class Y extends X    {
      public void mX ()   {
             System.out.println("Xm2");
      }
      public void mY ()   {
             System.out.println("Ym");
     }
}
class Test  {
   public static void main(String[] args)  {
     X xRef = new Y();
     Y yRef = (Y) xRef;
     yRef.mY();
     xRef.mX();
    }
}
```

A. Ym
Xm2
B. Ym
Xm1
C. Compilation fails
D. A ClassCastException is thrown at runtime

Question := 38

Given:

```
package p1;
public   interface  DoInterface   {
    void m1  (int   n)  ;       // line    n1
    public  void  m2  (int  n) ;
}

package  p3;
import   p1. DoInterace ;
public class DoClass implements DoInterface   {
   int  x1,  x2 ;
   DoClass  ( ) {
           this.x1   =  0;
           this.x2  =  10;
   }
   public void m1 (int  p1 ){x1 +=p1 ;  System.out.println (x1); }//line n2
   public void m2 (int  p1 ) {x1 +=p1 ;  System.out.println (x2); }
}
package   p2;
import  p1.*;
import  p3. * ;
class Test {
    public static void main (String  [ ] args  )   {
        DoInteracе  Do1= new DoClass();
        Do1.m1 (100) ;
        Do1.m2 (200);
    }
}
```

What is the result?

A.   100

B. Compilation fails due to an error in line n1
C. Compilation fails due to an error at line n2
D. Compilation fails due to an error at line n3

Question := 39
Given:

```
class App   {
    public   static  void main  (String  [ ] args  ) {
        int   i  =  10;
        int   j  =   20;
        int   k  =  j  +=  i  /  5  ;
        System.out.println(i  +  "  :  "  +  j  +  " :  "  +   k);
    }
 }
```

What is the result?

A. 10 : 22 : 20

B. 10 : 22 : 22

C. 10 : 22 : 6

D. 10 : 30 : 6

E. Compilation Error

Question := 40

Given the code fragment:

```
String [] colors={"red","blue","green","yellow","maroon","cyan"};
```

Which code fragment prints blue, cyan, ?

```
A)   for (String c: colors )  {
      if   (c.length()!= 4 )    {
              continue ;
           }
        System.out.print (c+",  ") ;
             }
B)   for (String c:colors){
      if (c.length()<=  4){
             continue ;
           }
           System.out.print(c+ ", ");
  }
C)  for (String c: colors )  {
           if  (c.length()>3){
              continue ;
           }
           System.out.print (c+",  ") ;
      }

D)     for (String c: colors )  {
          if(c.length()!= 4){
            System.out.print (c+",  ") ;
            continue ;
          }
       }
```

A. Option A

B. Option B

C. Option C

D. Option D

Question := 41

Given:

```
class Test3{
    public  static  void main ( String [ ] args )   {
        String names [ ]   =  new String [3] ;
        names [0]  =  "Mary Brown";
        names [1]  =  "Nancy Red";
        names [2]  =  "Jessy Orange";
        try{
             for (String  n: names )   {
                 try{
                      String pwd=n.substring (0,3)+n.substring(6, 10);
                      System.out.println  (pwd)  ;
                   }
                   catch(StringIndexOutOfBoundsException  Sie )   {
                      System.out.println ("string out of limits ");
                  }
             }
           }
           catch (ArrayIndexOutOfBoundsException   e)    {
                System.out.println ("array out of limits") ;
           }
    }
}
```

What is the result?

A. Marrown<br>
   string out of limits<br>
   Jes Ora

C. Marrown<br>
   string out of limits

D. Marrown<br>
   Nan Red<br>
   Jes Oran

Question := 42

Which two items can legally be contained within a java class declaration?

A. An import statement
B. A field declaration
C. A package declaration
D. A method declaration

Question := 43

Given:

```
public class Q127 {
    public static void main(String[] args) {
      String product  =  "pen"  ;
      product.toLowerCase() ;
      product.concat("BOX".toLowerCase())  ;
      System.out.print(product.substring  (4, 6)  )  ;
    }
}
```

What is the result?

A. box
B. nbo
C. bo
D. nb
E. An exception is thrown at runtime

## Question := 44

Given the code fragment:

```
public class Q131 {
    public static void main(String[] args) {
        ArrayList < String > list   =  new  ArrayList  <> ( )   ;
        list.add("SE") ;
        list.add("EE") ;
        list.add("ME") ;
        list.add ("SE") ;
        list.add ("EE") ;
        list.remove("SE") ;
        System. out. print (":Values are  :   "  +  list ) ;
    }
}
```

What is the result?

A. Values are : [EE, ME]
B. Values are : [EE, EE, ME]
C. Values are : [EE, ME, EE]
D. Values are : [SE, EE, ME, EE]
E. Values are : [EE, ME, SE, EE]

## Question := 45

Which two actions will improve the encapsulation of a class?

A. Changing the access modifier of a field from public to private

B. Removing the public modifier from a class declaration

C. Changing the return type of a method to void

D. Returning a copy of the contents of an array or ArrayList instead of a direct reference

Question := 46

Given:

```
public class Q137 {
   public static void main(String[] args) {
      float myArray []= {10.20f,20.30f,30.40f,50.60f} ;
      int index  =  0 ;
      boolean  isFound  =  false ;
      float key   =  30.40f ;
      // insert  code here
      System.out.println  (isFound ) ;
   }
}
```

Which code fragment, when inserted at line 7, enables the code print true?

```
(A)   while (key  ==  myArray  [ index ++] )   {
isFound   =  true ;
  }
(B)   while   (index    <=   4)    {
   If (key  ==  myArray [index ])    {
      index++;
    }
 }
(C)    while  (index++  < 5)    {
If  (key ++  myArray [index ] )   {
   IsFound   =  true ;
  }
}
(D)     while  (index  < 5 )     {
      If    (key   ==  myArray [index ] )   {
          isFound  =  true ;
          break;
    }
    index++ ;
}
```

A. Option A

B. Option B

C. Option C

D. Option D

## Question := 47

Given:

Test . java

```
class Test   {
          public  static   void main  (String[]args )    {
            Integer  num   =Integer.parseInt(args [ 1 ]  ) ;
            System.out.println( " number  is   :  "  +  num ) ;
          }
  }
```

And the commands:

```
Javac Test.java

Java Test 12345
```

What is the result?

A. Number is : 12345

B. A NullPointerException is thrown at runtime

C. A NumberFormatException is thrown at runtime

D. AnArrayIndexOutOfBoundException is thrown at runtime.

## Question := 48

Given the code fragment:

```
class Student   {
   String name ;
   int     age ;
}

1.class Test   {
2.    public static  void main  ( String  []  args )       {
3.        Student   s1   =  new  Student   ( ) ;
4.        Student   s2   =  new  Student   ( ) ;
5.        Student   s3   =  new  Student   ( ) ;
6.        s1   =   s3 ;
7.        s3   =   s2 ;
8.        s2   =   null ;
9.    }
10.}
```

Which statement is true?

A. After line 8, three objects are eligible for garbage collection
B. After line 8, two objects are eligible for garbage collection
C. After line 8, one object is eligible for garbage collection
D. After line 8, none of the objects are eligible for garbage collection

### Question := 49

Given the code fragment:

```
int   a  =   -10 ;
int   b  =    17 ;
int   c  =     expression1;
int   d  =    expression2;
c++;
d-- ;
System.out.print(c  +   “,   “   +   d) ;
```

What could expression1 and expression2 be, respectively, in order to produce output   -8, 16?

A. + +a, - -b
B. + +a, b- -
C. a+ +, - - b
D. a + +, b - -

### Question := 50

Which code fragment cause a compilation error?

A. float flt = 100F;
B. float flt = (float) 1_11.00;
C. float flt = 100;
D. double y1 = 203.22;
   float flt = y1
E. int y2 = 100;
   float flt = (float) y2;

### Question := 51

Given:

```
class Series{
    public  static void main  (String []  args)    {
       int  arr []  =  { 1,  2,  3 } ;
       for   ( int  ver  : arr )  {
            int  i   =  1 ;
            while   (i  <=  ver );
                 System.out.print (i+++" ");
       }
    }
}
```

What is the result?

A. 1
B. 1
C. 2
D. Compilation fails
E. The loop executes infinite times

Question := 52

Given the code in a file Traveler.java:

```
class Tours{
    public static void main(String[] args) {
        System.out.println("Happy Journey!" + args[1];
    }
    }
  class Traveler{
    public static void main(String[] args) {
        Tours.main(args);
    }
  }
```

And the commands:

```
Javac Traveler.java

Java Traveler Java Duke
```

What is the result?

A. Happy Journey! Duke
B. Happy Journey! Java
C. An exception is thrown at runtime
D. The program fails to execute due to a runtime error

Question := 53

Given:

```
class Dog{
   Dog(){
      try{
         throw new Exception ();
      }catch(Exception e){}
   }
}
class Test{
   public static void main(String [] args){
      Dog d1 = new Dog();
      Dog d2 = new Dog();
      Dog d3 = d2;
      // do complex Stuff
   }
}
```

How many objects have been created when the line / / do complex stuff is reached?

A. Two
B. Three
C. Four
D. Six

### Question := 54

Given:

```
7.     StringBuilder sb1 = new StringBuilder("Duke");
8.     String str1 = sb1.toString();
9.     // insert code here
10.     System.out.print(str1==str2);
```

Which code fragment, when inserted at line 9, enables the code to print true?

A. String str2 = str1;
B. String str2 = new string (str1);
C. String str2 = sb1.toString();
D. String str2 = "Duke";

### Question := 55

Given the classes:

* AssertionError

* ArithmeticException

* ArrayIndexOutofBoundsException

* FileNotFoundException

* IllegalArgumentException

* IOError

* IOException

* NumberFormatException

* SQLException

Which option lists only those classes that belong to the unchecked exception category?

A. AssertionError, ArrayIndexOutOfBoundsException, ArithmeticException
B. AssertionError, IOError, IOException
C. ArithmeticException, FileNotFoundException, NumberFormatException
D. FileNotFoundException, IOException, SQLException
E. ArrayIndexOutOfBoundException, IllegalArgumentException, FileNotFoundException

Question := 56
Given:

```
public class ComputeSum {

public int x;

public int y;
public int sum;

public ComputeSum (int nx, int ny) {

x = nx; y =ny;

updateSum();

}
public void setX(int nx) { x = nx; updateSum();}

public void setY(int ny) { x = ny; updateSum();}

void updateSum() { sum = x + y;}

}
```

This class needs to protect an invariant on the sum field.

Which three members must have the private access modifier to ensure that this invariant is maintained?

A. The x field
B. The y field
C. The sum field
D. The ComputerSum ( ) constructor
E. The setX ( ) method
F. The setY ( ) method

Question := 57
Given:

```
public class SuperTest {
public static void main(String[] args) {
statement1
statement2
statement3
}
}
class Shape {
public Shape() {
System.out.println("Shape: constructor");
}
public void foo() {
System.out.println("Shape: foo");

}
}
class Square extends Shape {
public Square() {
super();
}
public Square(String label) {
```

```
System.out.println("Square: constructor");
}
public void foo() {
super.foo();
}
public void foo(String label) {
System.out.println("Square: foo");
}
}
```

What should statement1, statement2, and statement3, be respectively, in order to produce the result?

```
Shape: constructor
Square: foo
Shape: foo
```

```
A. Square square = new Square ("bar");
square.foo ("bar");
square.foo();
B. Square square = new Square ("bar");
square.foo ("bar");
square.foo ("bar");
C. Square square = new Square ();
square.foo ();
square.foo(bar);
D. Square square = new Square ();
square.foo ();
square.foo("bar");
E. Square square = new Square ();
square.foo ();
square.foo ();
F. Square square = new Square();
square.foo("bar");
square.foo();
```

Question := 58

Given:

```
class Base {

// insert code here

}
public class Derived extends Base{

public static void main(String[] args) {
```

```
Derived obj = new Derived();

obj.setNum(3);

System.out.println("Square = " + obj.getNum() * obj.getNum());

}

}
```

Which two options, when inserted independently inside class Base, ensure that the class is being properly encapsulated and allow the program to execute and print

the square of the number?

A. private int num; public int getNum() { return num; }public void setNum(int num) { this.num = num;}
B. public int num; protected public int getNum() { return num; }protected public void setNum(int num) { this.num = num
C. private int num;public int getNum() {return num;} private void setNum(int num) { this.num = num;}
D. protected int num; public int getNum() { return num; } public void setNum(int num) { this.num = num;}
E. protected int num; private int getNum() { return num; } public void setNum(int num) { this.num = num;}

Question := 59
Given:

```
public class Equal {

public static void main(String[] args) {

String str1 = "Java";

String[] str2 = {"J","a","v","a"};

String str3 = "";

for (String str : str2) {

str3 = str3+str;

}

boolean b1 = (str1 == str3);
boolean b2 = (str1.equals(str3));

System.out.print(b1+", "+b2);

}
```

What is the result?

A. true, false
B. false, true
C. true, true
D. false, false

### Question := 60

Given:

```
public class String1 {

public static void main(String[] args) {

String s = "123";

if (s.length() >2)

A. concat("456");
for(int x = 0; x <3; x++)
s += "x";
System.out.println(s);
}
}
```

What is the result?
B. 123
C. 123xxx
D. 123456
E. 123456xxx
F. Compilation fails

### Question := 61

Which three statements are true about the structure of a Java class?
A. A class can have only one private constructor.
B. A method can have the same name as a field.
C. A class can have overloaded static methods.
D. A public class must have a main method.

E. The methods are mandatory components of a class.
F. The fields need not be initialized before use.

Question := 62

Given the fragment:

```
String[][] arra = new String[3][];

arra[0] = new String[]{"rose", "lily"};

arra[1] = new String[]{"apple", "berry","cherry","grapes"};

arra[2] = new String[]{"beans", "carrot","potato"};

// insert code fragment here
```

Which code fragment when inserted at line '// insert code fragment here', enables the code to successfully change arra elements to uppercase?

```
A.
for (int i = 0; i < arra.length; i++) {
for (int j=0; j < arra[i].length; j++) {
arra[i][j] = arra[i][j].toUpperCase();
}}
B. for (int i = 0; i < 3; i++) {
for (int j=0; j < 4; j++) {
arra[i][j] = arra[i][j].toUpperCase();
}}
C. for (String a[]:arra[][]) {
for (String x:a[]) {
D. toUpperCase();
}}
E. for (int i:arra.length) {
for (String x:arra) {
arra[i].toUpperCase();
}}
```

Question := 63

Given:

```
public class FieldInit {

char c;
boolean b;

float f;

void printAll() {

System.out.println("c = " + c);

System.out.println("c = " + b);

System.out.println("c = " + f);
}
public static void main(String[] args) {
FieldInit f = new FieldInit();

A. printAll();
}
}
```

What is the result?

B. c = null
b = false
f = 0.0F

C. c = 0
b = false
f = 0.0f

D. c = null
b = true
f = 0.0

E. c =
b = false
f = 0.0

Question := 64

Given the code fragment

```
int var1 = -5;

int var2 = var1--;

int var3 = 0;

if (var2 < 0) {
```

```
var3 = var2++;

} else {

var3 = --var2;

}

System.out.println(var3);
```

What is the result?

A.  6
B.  4
C.  5
D.  -5
E.  4
F. Compilation fails

Question := 65

Given:

```
public class TestOperator {

public static void main(String[] args) {

int result = 30 -12 / (2*5)+1;

System.out.print("Result = " + result);

}

}
```

What is the result?

A. Result = 2
B. Result = 3
C. Result = 28
D. Result = 29
E. Result = 30

Question := 66

Given the code fragment?

```
public class Test {

public static void main(String[] args) {

Test t = new Test();

int[] arr = new int[10];

arr = t.subArray(arr,0,2);

}

// insert code here
}
```

Which method can be inserted at line // insert code here to enable the code to compile?

```
A. public int[] subArray(int[] src, int start, int end) { return src;
}
B. public int subArray(int src, int start, int end) {
return src;
}
C. public int[] subArray(int src, int start, int end) { return src;
}
D. public int subArray(int[] src, int start, int end) { return src;
}
```

Question := 67

Given:

```
package p1;

public class Test {

static double dvalue;

static Test ref;

public static void main(String[] args) {
```

```
System.out.println(ref);
System.out.println(dvalue);
}
}
```

What is the result?

A. p1.Test.class

B. <the summary address refrenced by ref>

C. null

D. Compilation fails

E. A NullPointerException is thrown at runtime

Question := 68

Given:

```
class Base {
public static void main(String[] args) {
System.out.println("Base " + args[2]);
}
}
public class Sub extends Base{
public static void main(String[] args) {
System.out.println("Overriden " + args[1]);
}
}
```

And the commands:

```
javac Sub.java

java Sub 10 20 30
```

What is the result?
A. Base 30
B. Overridden 20
C. Overridden 20
Base 30
D. Base 30
Overridden 20

Question := 69
Given the code fragment:

```
// insert code here

arr[0] = new int[3];

arr[0][0] = 1;

arr[0][1] = 2;

arr[0][2] = 3;

arr[1] = new int[4];

arr[1][0] = 10;

arr[1][1] = 20;

arr[1][2] = 30;

arr[1][3] = 40;
```

Which two statements, when inserted independently at line // insert code here, enable the code to compile?

A. int [] [] arr = null;
B. int [] [] arr = new int [2];
C. int [] [] arr = new int [2] [ ];
D. int [] [] arr = new int [] [4];

E. int [] [] arr = new int [2] [0];
F. int [] [] arr = new int [0] [4];

Question := 70

Given the code fragment:

```
public class ForTest {

public static void main(String[] args) {

int[] array = {1, 2, 3};

for ( foo ) {

}

}
```

Which three code fragments, when replaced individually for foo, enables the program to compile?

A. int i : array
B. int i = 0; i < 1;
C. ; ;
D. ; i < 1; i++
E. i = 0; i<1;

Question := 71

Which two statements correctly describe checked exception?

A. These are exceptional conditions that a well-written application should anticipate and recover from.
B. These are exceptional conditions that are external to the application, and that the application
usually cannot anticipate or recover from.
C. These are exceptional conditions that are internal to the application, and that the application usually cannot anticipat
D. Every class that is a subclass of RuntimeException and Error is categorized as checked exception.
E. Every class that is a subclass of Exception, excluding RuntimeException and its subclasses, is categorized as checked ex

Question := 72

Given:

```
public class TestLoop {

    public static void main(String[] args) {

        int array[] = {0, 1, 2, 3, 4};
        int key = 3;

        for (int pos = 0; pos < array.length; ++pos) {
            if (array[pos] == key) {

                break;

            }

        }

        System.out.print("Found " + key + "at " + pos);

    }

}
```

What is the result?

A. Found 3 at 2
B. Found 3 at 3
C. Compilation fails
D. An exception is thrown at runtime