

- What symbol is used for a varargs method parameter?
 - ..
 - ...
 -
 -
- Fill in the blank in the following code to get the first element from the varargs parameter.

```
public void toss (Frisbee... f) {  
    Frisbee first = _____;  
}
```

- f
 - f[0]
 - f[1]
 - None of the above
- Which of the following are primitives?

```
int[] lowercase = new int[0];  
Integer[] uppercase = new Integer[0];
```

- Only lowercase
 - Only uppercase
 - Bother lowercase and uppercase
 - Neither lowercase nor uppercase
- How many of the following are legal declarations?

```
[]double lion;  
double[] tiger;  
double bear[];
```

- None
 - One
 - Two
 - Three
- Given the following two methods, which method call will not compile?

```
public void printStormName(String... names) {  
    System.out.println(Arrays.toString(names));  
}  
public void printStormNames(String[] names) {  
    System.out.println(Arrays.toString(names));  
}
```

- ```
}
```
- A. printStormName("Arlene");
  - B. printStormName(new String[] { "Bret" });
  - C. printStormNames("Cindy");
  - D. printStormNames(new String[] { "Don" });

6. How do you determine the number of elements in an array?

- A. buses.length
- B. buses.length()
- C. buses.size
- D. buses.size()

7. Which of the following create an empty two-dimensional array with dimensions  $2 \times 2$ ?

- A. int[][] blue = new int[2, 2];
- B. int[][] blue = new int[2], [2];
- C. int[][] blue = new int[2][2];
- D. int[][] blue = new int[2 x 2];

8. How many lines does the following code output?

```
String[] days = new String[] { "Sunday", "Monday", "Tuesday",
 "Wednesday", "Thursday", "Friday", "Saturday" };
for (int i = 0; i < days.length; i++)
 System.out.println(days[i]);
```

- A. Six
- B. Seven
- C. The code does not compile.
- D. The code compiles but throws an exception at runtime.

9. What are the names of the methods to do searching and sorting respectively on arrays?

- A. Arrays.binarySearch() and Arrays.linearSort()
- B. Arrays.binarySearch() and Arrays.sort()
- C. Arrays.search() and Arrays.linearSort()
- D. Arrays.search() and Arrays.sort()

o. What does this code output?

```
String[] nums = new String[] { "1", "9", "10" };
Arrays.sort(nums);
```

```
System.out.println(Arrays.toString(nums));
```

- A. [1, 9, 10]
- B. [1, 10, 9]
- C. [10, 1, 9]
- D. None of the above

11. Which of the following references the first and last element in a non-empty array?

- A. trains[0] and trains[trains.length]
- B. trains[0] and trains[trains.length - 1]
- C. trains[1] and trains[trains.length]
- D. trains[1] and trains[trains.length - 1]

12. How many of the following are legal declarations?

```
String lion [] = new String[] {"lion"};
String tiger [] = new String[1] {"tiger"};
String bear [] = new String[] {};
String ohMy [] = new String[0] {};
```

- A. None
- B. One
- C. Two
- D. Three

13. How many of the following are legal declarations?

```
float[] lion = new float[];
float[] tiger = new float[1];
float[] bear = new[] float;
float[] ohMy = new[1] float;
```

- A. None
- B. One
- C. Two
- D. Three

14. Which statement most accurately represents the relationship between searching and sorting with respect to the `Arrays` class?

- A. If the array is not sorted, calling `Arrays.binarySearch()` will be accurate, but slower than if it were sorted.
- B. The array does not need to be sorted before calling `Arrays.binarySearch()` to get an accurate result.

C. The array must be sorted before calling `Arrays.binarySearch()` to get an accurate result.

D. None of the above

15. Which is not a true statement about an array?

- A. An array expands automatically when it is full.
- B. An array is allowed to contain duplicate values.
- C. An array understands the concept of ordered elements.
- D. An array uses a zero index to reference the first element.

16. Which line of code causes an `ArrayIndexOutOfBoundsException`?

```
String[][] matrix = new String[1][2];
matrix[0][0] = "Don't think you are, know you are."; // m1
matrix[0][1] = "I'm trying to free your mind Neo"; // m2
matrix[1][0] = "Is all around you "; // m3
matrix[1][1] = "Why oh why didn't I take the BLUE pill?"; // m4
```

- A. m1
- B. m2
- C. m3
- D. m4

17. What does the following output?

```
String[] os = new String[] { "Mac", "Linux", "Windows" };
Arrays.sort(os);
System.out.println(Arrays.binarySearch(os, "Mac"));
```

- A. 0
- B. 1
- C. 2
- D. The output is not defined.

18. Which is the first line to prevent this code from compiling and running without error?

```
char[][] ticTacToe = new char[3, 3]; // r1
ticTacToe[1][3] = 'X'; // r2
ticTacToe[2][2] = 'X';
ticTacToe[3][1] = 'X';
System.out.println(ticTacToe.length + " in a row!"); // r3
```

- A. Line r1
- B. Line r2
- C. Line r3

D. None of the above

19. How many objects are created when running the following code?

```
Integer[] lotto = new Integer[4];
lotto[0] = new Integer(1_000_000);
lotto[1] = new Integer(999_999);
```

A. Two

B. Three

C. Four

D. Five

20. How many of the following are legal declarations?

```
[] [] String alpha;
[] String beta;
String[][] gamma;
String[] delta[];
String epsilon[][];
```

A. Two

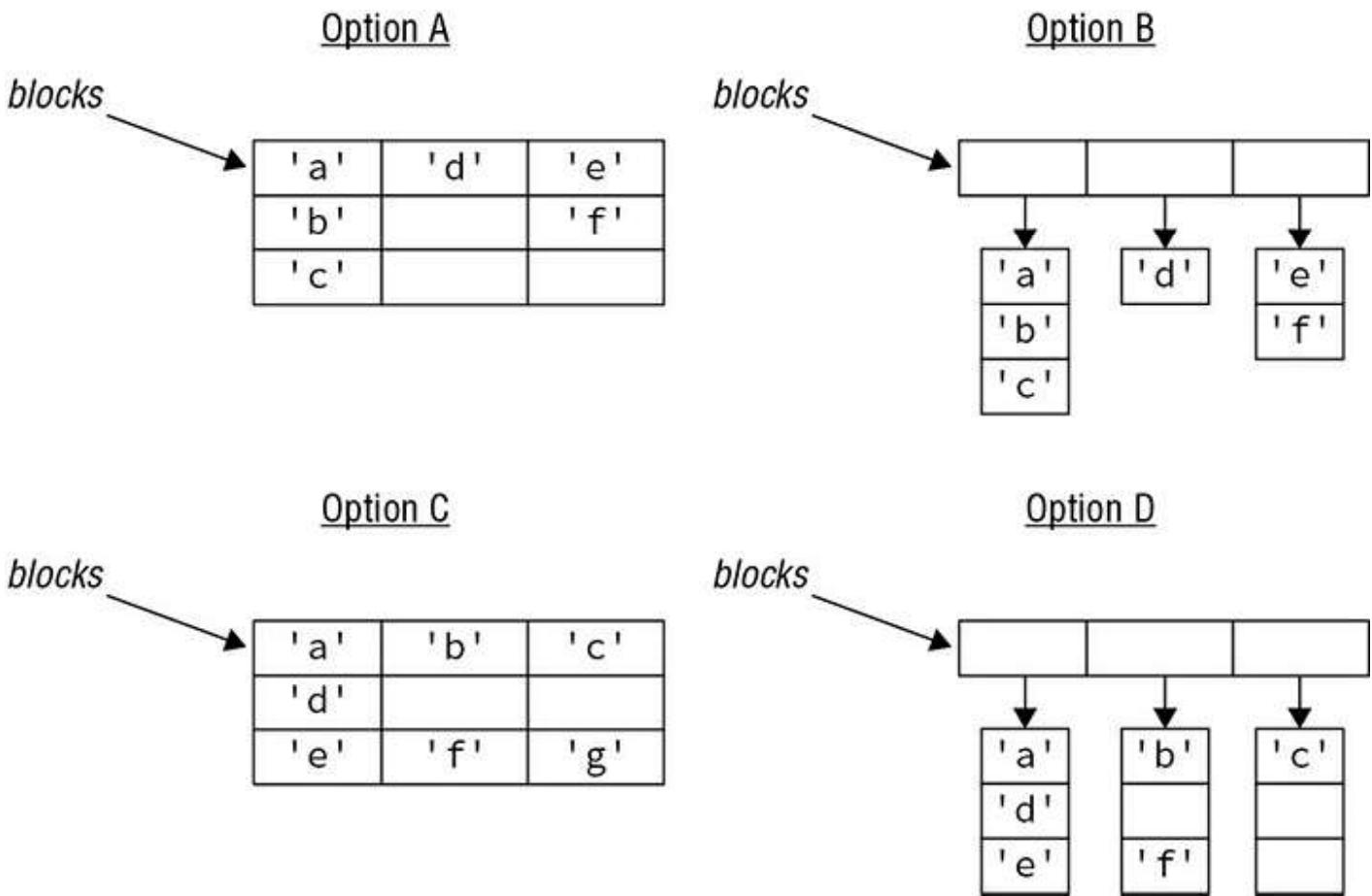
B. Three

C. Four

D. Five

21. Which of the options in the graphic best represent the `blocks` variable?

```
char[][] blocks = new char[][] { { 'a', 'b', 'c' }, { 'd' }, { 'e', 'f' } };
```



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

!2. What happens when calling the following method with a non-null and non-empty array?

```
public static void addStationName(String[] names) {
 names[names.length] = "Times Square";
}
```

- A. It adds an element to the array the value of which is Times Square.  
 B. It replaces the last element in the array with the value Times Square.  
 C. It does not compile.  
 D. It throws an exception.

!3. How many lines does the following code output?

```
String[] days = new String[] { "Sunday", "Monday", "Tuesday",
 "Wednesday", "Thursday", "Friday", "Saturday" };
for (int i = 0; i < days.size(); i++)
 System.out.println(days[i]);
```

- A. Six

- B. Seven
- C. The code does not compile.
- D. The code compiles but throws an exception at runtime.

!4. How many dimensions does the array reference `moreBools` allow?

```
boolean[][][] bools, moreBools;
```

- A. One dimension
- B. Two dimensions
- C. Three dimensions
- D. None of the above

!5. What is a possible output of the following code?

```
String[] strings = new String[2];
System.out.println(strings);
```

- A. [null, null]
- B. [, ]
- C. [Ljava.lang.String;@74a14482
- D. None of the above

!6. Which is the first line to prevent this code from compiling and running without error?

```
char[][] ticTacToe = new char[3][3]; // r1
ticTacToe[1][3] = 'X'; // r2
ticTacToe[2][2] = 'X';
ticTacToe[3][1] = 'X';
System.out.println(ticTacToe.length + " in a row!"); // r3
```

- A. Line r1
- B. Line r2
- C. Line r3
- D. None of the above

!7. What is the result of running the following as `java Copier`?

```
package duplicate;
public class Copier {
 public static void main(String... original) {
 String... copy = original;
 System.out.println(copy.length + " " + copy[0]);
 }
}
```

- A. 0

- B. 0 followed by an exception
- C. 1 followed by an exception
- D. The code does not compile.

8. What is the result of running the following program?

```
1: package fun;
2: public class Sudoku {
3: static int[][] game = new int[6][6];
4:
5: public static void main(String[] args) {
6: game[3][3] = 6;
7: Object[] obj = game;
8: obj[3] = "X";
9: System.out.println(game[3][3]);
10: }
11: }
```

- A. X
- B. The code does not compile.
- C. The code compiles but throws a `NullPointerException` at runtime.
- D. The code compiles but throws a different exception at runtime.

9. What does the following output?

```
String[] os = new String[] { "Mac", "Linux", "Windows" };
Arrays.sort(os);
System.out.println(Arrays.binarySearch(os, "RedHat"));
```

- A. -1
- B. -2
- C. -3
- D. The output is not defined.

10. What is the output of the following when run as `java FirstName Wolfie`?

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

- A. FirstName
- B. Wolfie
- C. The code throws an `ArrayIndexOutOfBoundsException`.
- D. The code throws a `NullPointerException`.

11. What is the output of the following when run as `java Count 1 2`?

```
public class Count {
 public static void main(String target[]) {
 System.out.println(target.length);
 }
}
```

- A. 0
- B. 1
- C. 2
- D. The code does not compile.

12. What is the output of the following when run as `java unix.EchoFirst seed flower?`

```
package unix;
import java.util.*;
public class EchoFirst {

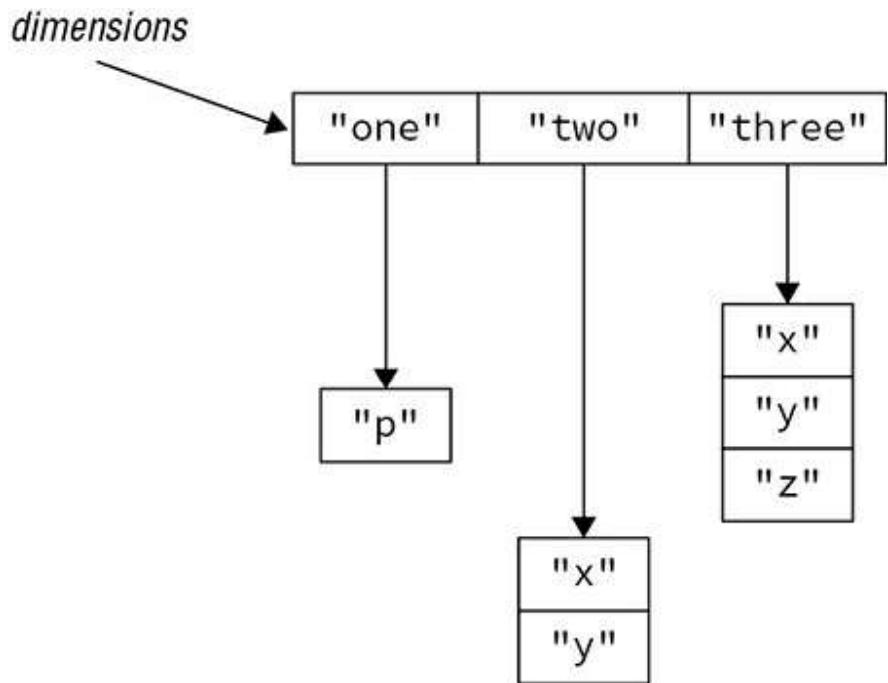
 public static void main(String[] args) {
 String one = args[0];
 Arrays.sort(args);
 int result = Arrays.binarySearch(args, one);
 System.out.println(result);
 }
}
```

- A. 0
- B. 1
- C. The code does not compile.
- D. The code compiles but throws an exception at runtime.

13. Which of these four array declarations produces a different array than the others?

- A. `int[][] nums = new int[2][1];`
- B. `int[] nums[] = new int[2][1];`
- C. `int[] nums[] = new int[][] { { 0 }, { 0 } };`
- D. `int[] nums[] = new int[][] { { 0, 0 } };`

14. How do you access the array element with the value of "z"?



- A. `dimensions["three"][2]`
- B. `dimensions["three"][3]`
- C. `dimensions[2][2]`
- D. `dimensions[3][3]`

15. How many lines does the following code output?

```
String[] days = new String[] { "Sunday", "Monday", "Tuesday",
 "Wednesday", "Thursday", "Friday", "Saturday" };
for (int i = 1; i <= days.length; i++)
 System.out.println(days[i]);
```

- A. Six
- B. Seven
- C. The code does not compile.
- D. The code compiles but throws an exception at runtime.

16. What is the output of the following when run as `java FirstName Wolfie`?

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

- A. FirstName
- B. Wolfie
- C. The code throws an `ArrayIndexOutOfBoundsException`.
- D. The code throws a `NullPointerException`.

7. Which is the first line to prevent this code from compiling and running without error?

```
char[][] ticTacToe = new char[3][3]; // r1
ticTacToe[0][0] = 'X'; // r2
ticTacToe[1][1] = 'X';
ticTacToe[2][2] = 'X';
System.out.println(ticTacToe.length + " in a row!"); // r3
```

- A. Line r1
- B. Line r2
- C. Line r3
- D. None of the above

8. What is the output of the following when run as `java Count 1 2`?

```
public class Count {
 public static void main(String target[]) {
 System.out.println(target.length());
 }
}
```

- A. 0
- B. 1
- C. 2
- D. The code does not compile.

9. How many dimensions does the array reference `moreBools` allow?

```
boolean[][] bools[], moreBools;
```

- A. One dimension
- B. Two dimensions
- C. Three dimensions
- D. None of the above

10. What is the result of the following when called as `java counting.Binary`?

```
package counting;
import java.util.*;
public class Binary {

 public static void main(String... args) {
 Arrays.sort(args);
 System.out.println(Arrays.toString(args));
 }
}
```

- A. null

B. []

C. The code does not compile.

D. The code compiles but throws an exception at runtime.

|1. What does the following output?

```
String[] os = new String[] { "Mac", "Linux", "Windows" };
System.out.println(Arrays.binarySearch(os, "Linux"));
```

A. 0

B. 1

C. 2

D. The output is not defined.

|2. What is the result of running the following program?

```
1: package fun;
2: public class Sudoku {
3: static int[][] game;
4:
5: public static void main(String[] args) {
6: game[3][3] = 6;
7: Object[] obj = game;
8: game[3][3] = "X";
9: System.out.println(game[3][3]);
10: }
11: }
```

A. X

B. The code does not compile.

C. The code compiles but throws a `NullPointerException` at runtime.

D. The code compiles but throws a different exception at runtime.

|3. What is the output of the following?

```
String[][] listing = new String[][] { { "Book" }, { "Game", "29.99" } };
System.out.println(listing.length + " " + listing[0].length);
```

A. 2 1

B. 2 2

C. The code does not compile.

D. The code compiles but throws an exception at runtime.

|4. What is the output of the following when run as `java FirstName`?

```
public class FirstName {
 public static void main(String[] names) {
 System.out.println(names[0]);
```

```
 }
}
```

- A. FirstName
- B. The code does not compile.
- C. The code throws an `ArrayIndexOutOfBoundsException`.
- D. The code throws a `NullPointerException`.

15. How many lines does the following code output?

```
String[] days = new String[] { "Sunday", "Monday", "Tuesday",
 "Wednesday", "Thursday", "Friday", "Saturday" };
for (int i = 1; i < days.length; i++)
 System.out.println(days[i]);
```

- A. Six
- B. Seven
- C. The code does not compile.
- D. The code compiles but throws an exception at runtime.

16. What is the output of the following when run as `java Count "1 2"`?

```
public class Count {
 public static void main(String target[]) {
 System.out.println(target.length);
 }
}
```

- A. 0
- B. 1
- C. 2
- D. The code does not compile.

17. What does the following output?

```
String[] os = new String[] { "Linux", "Mac", "Windows" };
System.out.println(Arrays.binarySearch(os, "Linux"));
```

- A. 0
- B. 1
- C. 2
- D. The output is not defined.

18. Which of the following statements are true?

- I. You can always change a method signature from `call(String[] arg)` to `call(String... arg)` without causing a compiler error in the calling code.

- II. You can always change a method signature from `call(String... arg)` to `call(String[] arg)` without causing a compiler error in the existing code.
- A. I
  - B. II
  - C. Both I and II
  - D. Neither I nor II
9. Which of these four array references can point to an array that is different from the others?
- A. `int[][][][], nums1a, nums1b;`
  - B. `int[][][], nums2a[], nums2b;`
  - C. `int[][], nums3a[], [], nums3b[][],`
  - D. `int[] nums4a[], [], [], nums4b[], [], [];`
10. What is the output of the following when run as `java unix.EchoFirst seed flower?`
- ```
package unix;
import java.util.*;
public class EchoFirst {

    public static void main(String[] args) {
        Arrays.sort(args);
        String result = Arrays.binarySearch(args, args[0]);
        System.out.println(result);
    }
}
```
- A. 0
 - B. 1
 - C. The code does not compile.
 - D. The code compiles but throws an exception at runtime.

Chapter 5

Using Loop Constructs

THE OCA EXAM TOPICS COVERED IN THIS PRACTICE TEST INCLUDE THE FOLLOWING:

✓ Using Loop Constructs

- Create and use while loops
- Create and use for loops including the enhanced for loop
- Create and use do/while loops
- Compare loop constructs
- Use break and continue

1. Which type of loop is best known for its `boolean` condition that controls entry to the loop?
 - A. `do-while` loop
 - B. `for` (traditional)
 - C. `for-each`
 - D. `while`
2. Which type of loop is best known for using an index or counter?
 - A. `do-while` loop
 - B. `for` (traditional)
 - C. `for-each`
 - D. `while`
3. Which type of loop is guaranteed to have the body execute at least once?
 - A. `do-while` loop
 - B. `for` (traditional)
 - C. `for-each`
 - D. `while`
4. Which of the following can loop through an array without referring to the elements by index?
 - A. `do-while` loop
 - B. `for` (traditional)
 - C. `for-each`
 - D. `while`
5. What keyword is used to end the current loop iteration and proceed execution with the next iteration of that loop?
 - A. `break`
 - B. `continue`
 - C. `end`
 - D. `skip`
6. What keyword is used to proceed with execution immediately after a loop?
 - A. `break`
 - B. `continue`

C. end

D. skip

7. Which type of loop has three segments within parentheses?

A. do-while loop

B. for (traditional)

C. for-each

D. while

8. Which of the following statements is/are true?

I. A traditional for loop can iterate through an array starting from index 0.

II. A traditional for loop can iterate through an array starting from the end.

A. Only I

B. Only II

C. Both statements

D. Neither statement

9. Which of the following statements is/are true?

I. A for-each loop can iterate through an array starting from index 0.

II. A for-each loop can iterate through an array starting from the end.

A. Only I

B. Only II

C. Both statements

D. Neither statement

10. Which type of loop has a boolean condition that is first checked after a single iteration through the loop?

A. do-while loop

B. for (traditional)

C. for-each

D. while

11. What does the following code output?

```
int singer = 0;  
while (singer)  
    System.out.println(singer++);
```

A. 0

- B. The code does not compile.
- C. The loops complete with no output.
- D. This is an infinite loop.

12. What does the following code output?

```
List<String> drinks = Arrays.asList("can", "cup");
for (int container = drinks.size() - 1; container >= 0; container--) {
    System.out.print(drinks.get(container) + ",");
```

- A. can,cup,
- B. cup,can,
- C. The code does not compile.
- D. None of the above

13. What does the following code output?

```
public static void main(String[] args) {
    List<String> bottles = Arrays.asList("glass", "plastic");
    for (int type = 0; type < bottles.size(); ) {
        System.out.print(bottles.get(type) + ",");
        break;
    }
    System.out.print("end");
}
```

- A. glass,end
- B. glass,plastic,end
- C. The code does not compile.
- D. None of the above

14. What does the following code output?

```
String letters = "";
while (letters.length() != 2)
    letters+="a";
System.out.println(letters);
```

- A. aa
- B. aaa
- C. The loops complete with no output.
- D. This is an infinite loop.

15. What is the result of the following when run with `java peregrine.TimeLoop September 3 1940`?

```
package peregrine;
```

```
public class TimeLoop {  
    public static void main(String[] args) {  
        for (int i = args.length; i>=0; i++)  
            System.out.println("args");  
    }  
}
```

- A. args
- B. argsargs
- C. The code does not compile.
- D. None of the above

16. What is the output of the following code?

```
package chicago;  
public class Loop {  
    private static int count;  
    private static String[] stops = new String[] { "Washington",  
        "Monroe", "Jackson", "LaSalle" };  
    public static void main(String[] args) {  
        while (count < stops.length) {  
            if (stops[count++].length() < 8) {  
                break;  
            }  
        }  
        System.out.println(count);  
    }  
}
```

- A. 1
- B. 2
- C. 4
- D. The code does not compile.

17. What is the result of the following code?

```
do {  
    int count = 0;  
    do {  
        count++;  
    } while (count < 2);  
    break;  
} while (true);  
System.out.println(count);
```

- A. 2
- B. 3
- C. The code does not compile.
- D. This is an infinite loop.

8. Which of the following segments of a `for` loop can be left blank?

```
for (segmentA; segmentB; segmentC) {  
}
```

- A. segmentA
- B. segmentB
- C. segmentC
- D. All of the above

9. How many of the loop types (`while`, `do while`, traditional `for`, and enhanced `for`) allow you to write code that creates an infinite loop?

- A. One
- B. Two
- C. Three
- D. Four

10. What is the output of the following?

```
List<String> drinks = Arrays.asList("can", "cup");  
for (int container = 0; container < drinks.size(); container++)  
    System.out.print(drinks.get(container) + ",");
```

- A. can,cup,
- B. cup,can,
- C. The code does not compile.
- D. None of the above

11. What happens when running the following code?

```
do (  
    System.out.println("helium");  
) while (false);
```

- A. It completes successfully without output.
- B. It outputs helium once.
- C. It keeps outputting helium.
- D. The code does not compile.

12. Which of the following is equivalent to this code snippet given an array of `String` objects?

```
for (int i=0; i<fun.length; i++)  
    System.out.println(fun[i]);
```

- A. for (String f = fun) System.out.println(f);
- B. for (String f : fun) System.out.println(f);
- C. for (String = fun) System.out.println(it);
- D. None of the above

!3. How many of these statements can be inserted after the `println` to have the code flow follow the arrow in this diagram?

```
break;  
break letters;  
break numbers;
```

```
    ➔ letters: for (char ch='a'; ch<='z'; ch++) {  
        numbers: for (int n=0; n<=10; n++) {  
            System.out.println(ch);  
        }  
    }
```

- A. None
- B. One
- C. Two
- D. Three

!4. Using the diagram in the previous question, how many of these statements can be inserted after the `println` to have the code flow follow the arrow in the diagram?

```
continue;  
continue letters;  
continue numbers;
```

- A. None
- B. One
- C. Two
- D. Three

!5. What does the following code output?

```
int singer = 0;  
while (singer > 0)  
    System.out.println(singer++);
```

- A. 0
- B. The code does not compile.
- C. The loops completes with no output.

- D. This is an infinite loop.
- 6. Which of the following types is `taxis` not allowed to be in order for this code to compile?

```
for (Object obj : taxis) {  
}
```

- A. `ArrayList<Integer>`
- B. `int[]`
- C. `StringBuilder`
- D. All of these are allowed.

- 7. What is the output of the following?

```
boolean balloonInflated = false;  
do {  
    if (!balloonInflated) {  
        balloonInflated = true;  
        System.out.print("inflate-");  
    }  
} while (! balloonInflated);  
System.out.println("done");
```

- A. done
- B. inflate-done
- C. The code does not compile.
- D. This is an infinite loop.

- 8. What does the following code output?

```
String letters = "";  
while (letters.length() != 3)  
    letters+="ab";  
System.out.println(letters);
```

- A. ab
- B. abab
- C. The loop completes with no output.
- D. This is an infinite loop.

- 9. What describes the order in which the three expressions appear in a `for` loop?

- A. `boolean` conditional, initialization expression, update statement
- B. initialization expression, `boolean` conditional, update statement
- C. initialization expression, update statement, `boolean` conditional

D. None of the above

30. What is the result of the following?

```
int count = 10;
List<Character> chars = new ArrayList<>();
do {
    chars.add('a');
    for (Character x : chars) count -=1;
} while (count > 0);
System.out.println(chars.size());
```

A. 3

B. 4

C. The code does not compile.

D. None of the above

31. What is the result of the following?

```
int k = 0;
for (int i = 10; i > 0; i--) {
    while (i > 3) i -= 3;
    k += 1;
}
System.out.println(k);
```

A. 1

B. 2

C. 3

D. 4

32. Which of the following is equivalent to this code snippet given an array of String objects?

```
for (int i=fun.length-1; i>=0; i--)
    System.out.println(fun[i]);
```

A. for (String f = fun) System.out.println(f);

B. for (String f : fun) System.out.println(f);

C. for (String f fun) System.out.println(it);

D. None of the above

33. What does the following code output?

```
public static void main(String[] args) {
    List<String> bottles = Arrays.asList("glass", "plastic");
    for (int type = 0; type < bottles.size();)
        System.out.print(bottles.get(type) + ", ");
        break;
```

```
        System.out.print("end");
    }
```

- A. glass,end
- B. glass,plastic,end
- C. The code does not compile.
- D. None of the above

34. What is the result of the following?

```
String[] nycTourLoops = new String[] { "Downtown", "Uptown", "Brooklyn" };
String[] times = new String[] { "Day", "Night" };
for (int i = 0, j = 0; i < nycTourLoops.length
    && j < times.length; i++; j++)
{
    System.out.print(nycTourLoops[i] + " " + times[j] + "-");
}
```

- A. Downtown Day-
- B. Downtown Day-Uptown Night-
- C. The code does not compile.
- D. The code compiles but throws an exception at runtime.

35. What is the result of the following when run with `java peregrine.TimeLoop September 3 1940`?

```
package peregrine;
public class TimeLoop {
    public static void main(String[] args) {
        for (int i = args.length; i>=0; i||)
            System.out.println(args[i]);
    }
}
```

- A. September
- B. 1940
- C. The code does not compile.
- D. None of the above

36. What is the output of the following?

```
public class Shoelaces {
    public static void main(String[] args) {
        String tie = null;
        while (tie == null)
            tie = "shoelace";
        System.out.print(tie);
    }
}
```

- A. null
- B. shoelace
- C. shoelaceshoelace
- D. None of the above

;7. The following code outputs a single letter x. What happens if you remove lines 25 and 28?

```
23: String race = "";
24: loop:
25: do {
26:     race += "x";
27:     break loop;
28: } while (true);
29: System.out.println(race);
```

- A. It prints an empty string.
- B. It still outputs a single letter x.
- C. It no longer compiles.
- D. It becomes an infinite loop.

;8. What is the output of the following code?

```
package chicago;
public class Loop {
    private static int count;
    private static String[] stops = new String[] { "Washington",
        "Monroe", "Jackson", "LaSalle" };
    public static void main(String[] args) {
        while (count < stops.length) {
            if (stops[count++].length() < 8) {
                continue;
            }
        }
        System.out.println(count);
    }
}
```

- A. 1
- B. 2
- C. 4
- D. The code does not compile.

;9. What is the output of the following?

```
StringBuilder builder = new StringBuilder();
String str = new String("Leaves growing");
do {
    System.out.println(str);
```

```
} while (builder);  
System.out.println(builder);
```

- A. Leaves growing
- B. This is an infinite loop.
- C. The code does not compile.
- D. The code compiles but throws an exception at runtime.

10. What is the result of the following code?

```
6:     int count = 0;  
7:     do {  
8:         do {  
9:             count++;  
10:        } while (count < 2);  
11:        break;  
12:    } while (true);  
13:    System.out.println(count);
```

- A. 2
- B. 3
- C. The code does not compile.
- D. This is an infinite loop.

11. Fill in the blank so this code compiles and does not cause an infinite loop.

```
t: while (true) {  
f: while(true) {  
    -----  
}
```

- A. break;
- B. break f;
- C. break t;
- D. None of the above

12. What is the result of the following?

```
String[] nycTourLoops = new String[] { "Downtown", "Uptown", "Brooklyn" };  
String[] times = new String[] { "Day", "Night" };  
for (int i = 0, j = 0; i < nycTourLoops.length  
    && j < times.length; i++, j++)  
{  
    System.out.print(nycTourLoops[i] + " " + times[j] + "-");  
}
```

- A. Downtown Day-

- B. Downtown Day-Uptown Night-
- C. The code does not compile.
- D. The code compiles but throws an exception at runtime.

|3. How many lines does the following code output?

```
import java.util.*;
public class Exams {
    public static void main(String[] args) {
        List<String> exams = Arrays.asList("OCA", "OCP");
        for (String e1 : exams)
            for (String e2 : exams)
                System.out.println(e1 + " " + e2);
    }
}
```

- A. One
- B. Four
- C. The code does not compile.
- D. The code compiles but throws an exception at runtime.

|4. Which of the following best describes the flow of execution in this `for` loop if beta always returns false?

```
for (alpha; beta; gamma) {
    delta;
}
```

- A. alpha
- B. alpha, beta
- C. alpha, beta, gamma
- D. None of the above

|5. Which of the following best describes the flow of execution in this `for` loop if the loop body is run exactly once?

```
for (alpha; beta; gamma) {
    delta;
}
```

- A. alpha, delta, gamma, beta
- B. alpha, beta, delta, gamma, beta
- C. alpha, delta, gamma, alpha, beta
- D. alpha, beta, delta, gamma, alpha, beta

|6. Which of the following iterates a different number of times than the others?

- A. for (int k=0; k < 5; k++) {}
- B. for (int k=1; k <= 5; k++) {}
- C. int k=0; do {} while(k++ < 5)
- D. int k=0; while (k++ < 5) {}

17. What is the output of the following?

```
public class Shoelaces {  
    public static void main(String[] args) {  
        String tie = null;  
        while (tie == null);  
        tie = "shoelace";  
        System.out.print(tie);  
    }  
}
```

- A. null
- B. shoelace
- C. shoelaceshoelace
- D. None of the above

18. What is the output of the following?

```
12: int result = 8;  
13: for: while (result > 7) {  
14:     result++;  
15:     do {  
16:         result--;  
17:     } while (result > 5);  
18:     break for;  
19: }  
20: System.out.println(result);
```

- A. 5
- B. 8
- C. The code does not compile.
- D. The code compiles but throws an exception at runtime.

19. What is the output of the following?

```
boolean balloonInflated = false;  
do {  
    if (!balloonInflated) {  
        balloonInflated = true;  
        System.out.print("inflate-");  
    }  
} while (balloonInflated);  
System.out.println("done");
```

- A. done
 - B. inflate-done
 - C. The code does not compile.
 - D. This is an infinite loop.
- o. Which of the following can fill in the blank to have the code compile successfully?

```
package nyc;
public class TouristBus {
    public static void main(String... args) {
        String[] nycTourLoops = new String[] { "Downtown", "Uptown", "Brooklyn"
    };
        String[] times = new String[] { "Day", "Night" };
        for (_____ i < 1; i++, j++)
            System.out.println(nycTourLoops[i] + " " + times[j]);
    }
}
```

- A. int i=0; j=0;
- B. int i=0, j=0;
- C. int i=0; int j=0;
- D. int i=0, int j=0;