

Java Final Review

Indicate the answer choice that best completes the statement or answers the question.

1. You can add an item at any point to a(n) _____, whose size expands automatically to accommodate the new item.
a. ArrayList b. Array
c. ResizableArray d. array
2. If a class's only constructor requires an argument, you must provide an argument for every _____ of the class that you create.
a. parameter b. type
c. object d. method
3. _____ involves using one term to indicate diverse meanings, or writing multiple methods with the same name but with different parameter lists.
a. Referencing b. Overloading
c. Nesting d. Signing
4. Data items you use in a call to a method are called _____.
a. arguments b. instance variables
c. method declarations d. headers
5. A loop controlled by the user is a type of _____ loop.
a. indefinite b. definite
c. counter-controlled d. incrementing
6. You can use the keyword _____ within a method in a derived class to access an overridden method in a base class.
a. sub b. this
c. protected d. super
7. When you create a class and use the `implements` clause to implement an interface but fail to code one of the interface's methods, the compiler error generated indicates that you must declare your class to be _____.
a. abstract b. static
c. public d. related
8. Which of the following correctly declares and initializes a `String` object?
a. `new String = Hello` b. `String greeting == "Hello";`
c. `String greeting = "Hello";` d. `String new = "Hello"`
9. A _____ is a class for storing and manipulating changeable data that is composed of multiple characters.
a. `Character` b. `String`
c. `StringVariable` d. `StringBuilder`
10. A(n) _____ loop allows you to cycle through an array without specifying the starting and ending points for the loop control variable.
a. `do...while` b. `inner`
c. `enhanced for` d. `enhanced while`

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11. The `ArrayList` class ____ method returns the current `ArrayList` size.
- a. `size` b. `capacity`
 - c. `length` d. `rows`

Indicate whether the statement is true or false.

12. System software is used for tasks such as word processing, calculations and playing games.
- a. True
 - b. False
13. If an object's methods are well written, the user is unaware of the low-level details of how the methods are executed, and the user must simply understand the interface or interaction between the method and the object.
- a. True
 - b. False
14. A Java identifier can contain only letters, digits, ampersands, or number signs.
- a. True
 - b. False

Indicate the answer choice that best completes the statement or answers the question.

15. The `length` ____ contains the number of elements in the array.
- a. `box` b. `field`
 - c. `area` d. `block`
16. When you create an array of objects, each reference is assigned the value ____.
- a. `null` b. `'\u0000'`
 - c. `true` d. `false`

Indicate whether the statement is true or false.

17. When you issue the command to compile a class containing errors, the Java compiler does not produce any error messages. You will first need to run the class in order to see error messages.
- a. True
 - b. False
18. Logic errors are easily identified when a program is compiled.
- a. True
 - b. False

Indicate the answer choice that best completes the statement or answers the question.

19. `System.out.println("Your name is " + yourName);`

The above statement is an example of ____, which is used to join `Strings`.

- a. concatenation b. referencing

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- c. parsing d. buffering

Indicate whether the statement is true or false.

20. Although not a requirement, it is Java standard that class identifiers begin with an uppercase letter and use other uppercase letters to improve readability.

- a. True
b. False

21. A compiler ignores whitespace (that is, any combination of nonprinting characters) between words and lines.

- a. True
b. False

22. Dots (or periods) in a Java statement are used to separate the names of the components that make up the statement.

- a. True
b. False

Indicate the answer choice that best completes the statement or answers the question.

23. With a two-dimensional array, the ____ field holds the number of rows in the array.

- a. size b. capacity
c. row d. length

Indicate whether the statement is true or false.

24. Using the `void` keyword in the `main()` method header indicates that a value will be returned by the `main()` method is called.

- a. True
b. False

Indicate the answer choice that best completes the statement or answers the question.

25. A program written in ____ is the most basic circuitry-level language.

- a. Java b. machine language
c. BASIC d. C

26. Locating and repairing all syntax errors is part of the process of ____ a program.

- a. interpreting b. compiling
c. debugging d. executing

27. ____ are also called modules, methods, functions, and subroutines. Java programmers most frequently use the term "method."

- a. Procedures b. Calls
c. Classes d. Applications

28. The `ArrayList` class ____ method retrieves an item from a specified location in an `ArrayList`.

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- a. extract b. get
- c. peek d. retrieve

29. A(n) ____ class is a class that you create only to extend from.

- a. abstract b. inheritance
- c. parent d. final

30. ____ refers to the hiding of data and methods within an object.

- a. Instance b. Inheritance
- c. Passed d. Encapsulation

31. ____ describes the feature of languages that allows the same word to be interpreted correctly in different situations based on the context.

- a. Polymorphism b. Architecturally neutral
- c. Source code d. Insulation

32. Individual array elements are ____ by value when a copy of the value is made and used within the receiving method.

- a. sorted b. passed
- c. received d. stored

33. A(n) ____ defines the circumstances under which a class can be accessed and the other classes that have the right to use a class.

- a. identifier b. access specifier
- c. parameter d. Pascal casing

34. In Java, the reserved keyword ____ means that a method is accessible and usable even though no objects of the class exist.

- a. active b. undefined
- c. static d. void

35. Line comments start with ____.

- a. a forward slash and an asterisk b. two forward slashes
- c. a forward slash and two asterisks d. a percent sign

36. After a successful compile, you can run the class file on any computer that has a ____.

- a. Java Virtual Machine (JVM) b. Web browser
- c. text editor d. DOS

37. Whenever a method requires multiple arguments, the arguments are always separated with ____.

- a. commas b. periods
- c. forward slashes d. brackets

38. If a compiler detects a violation of language rules, it refuses to translate the class to ____.

- a. an application b. a logic error
- c. machine code d. Java

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39. ____ is the process the compiler uses to divide your source code into meaningful portions; the message means that the compiler was in the process of analyzing the code when the end of the file was encountered prematurely.

- a. Running b. Debugging
- c. Compiling d. Parsing

40. A ____ is an error not detected until the program asks the computer to do something wrong, or even illegal, while executing.

- a. syntax error b. run-time error
- c. package d. Java API

41. It is best to use the ____ available text editor when writing Java programs.

- a. most complex b. simplest
- c. best d. latest

42. It is a tradition among programmers that the first program you write in any language produces “____” as its output.

- a. Hi, your name! b. Hello, world!
- c. My first program! d. Hello, your name!

43. When you run a Java application using the ____ command, do not add the .class extension to the filename.

- a. class b. static
- c. java d. output

```
44. {  
    public static void main(String[] args)  
    {  
        System.out.println("First Java application");  
    }  
}
```

Given the above code, which item identifies the access specifier?

- a. public b. static
- c. void d. First

```
45. public class First  
{  
    public static void main(String[] args)  
    {  
        System.out.println("First Java application");  
    }  
}
```

Given the above code, which item identifies the name of the class?

- a. public b. static
- c. void d. First

```
46.    public class First  
    {  
        public static void main(String[] args)
```

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```
{  
    System.out.println("First Java application");  
}  
}
```

Given the above code, which item identifies the method's return type?

- a. public b. static
- c. void d. println

47. public class First
 {
 public static void main(String[] args)
 {
 System.out.println("First Java application");
 }
 }

Given the above code, which item identifies that the method will work without instantiating an object of the class?

- a. public b. static
- c. void d. println

Enter the appropriate word(s) to complete the statement.

48. In programming, named computer memory locations are called _____ because they hold values that might vary.

49. _____ comments are a special case of block comments that are used to generate documentation.

50. You use an `import` statement when you want to access a built-in Java class that is contained in a group of classes called a(n) _____.

51. A(n) _____ error occurs when the syntax of the program is correct and the program compiles but produces incorrect results when you execute it.

52. The _____ is also called the Java class library; it contains information about how to use every prewritten Java class, including lists of all the methods you can use with the classes.

Match each term with the correct statement below.

- a. literal string
- b. high-level programming languages
- c. dialog box
- d. syntax
- e. whitespace
- f. compiler
- g. attributes
- h. Machine language
- i. Java virtual machine (JVM)

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53. Allow you to assign intuitive names to areas of computer memory
54. The rules for the programming language
55. Translates an entire program before carrying out the statement
56. A low-level programming language
57. The characteristics that define an object
58. Hypothetical computer used to run a Java program
59. Series of characters that will appear in output exactly as entered
60. Any combination of nonprinting characters
61. A GUI object resembling a window in which you can place messages you want to display

62. Describe the components (objects and classes) that are used in the statement `System.out.println()`.
63. What happens after a programmer successfully compiles a Java program named "First.java"?
64. Provide examples of logic errors. How do programmers minimize logic errors in their code?
65. Explain the purpose of arguments and why it is necessary to pass arguments to a method.
66. Briefly describe the elements of the `main()` method:

```
public static void main(String[] args)
{
    Java code...
}
```
67. Once an application is written and saved, the Java class must be compiled. Describe what two procedures must occur in order to view the output of the application.
68.

```
public class FindMyErrors
{
    public static void main(String[] args)
    {
        System.out.println("My application with errors")
    }
}
```

Given the above code, identify three separate syntax errors.

Name: _____ Class: _____ Date: _____

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Answer Key

1. a
2. c
3. b
4. a
5. a
6. d
7. a
8. c
9. d
10. c
11. a
12. False
13. True
14. False
15. b
16. a
17. False
18. False
19. a
20. True
21. True
22. True
23. d
24. False
25. b

Name: _____ Class: _____ Date: _____

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- 26. c
- 27. a
- 28. b
- 29. a
- 30. d
- 31. a
- 32. b
- 33. b
- 34. c
- 35. b
- 36. a
- 37. a
- 38. c
- 39. d
- 40. b
- 41. b
- 42. b
- 43. c
- 44. a
- 45. d
- 46. c
- 47. b
- 48. variables
- 49. Javadoc
- 50. package
- 51. logic

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52. Java API

53. b

54. d

55. f

56. h

57. g

58. i

59. a

60. e

61. c

62. Within the statement `System.out.println("First Java application");`, the method to which you are passing "First Java application" is named `println()`. The Java methods `println()` and `print()` both produce output. With `println()`, after the output is displayed, the insertion point moves to the following line so that subsequent output appears on a new line. With `print()`, however, the insertion point does not advance to a new line, so subsequent output appears at the end of the current line. Within the statement `System.out.println("First Java application");`, `out` is an object that is a property of the `System` class that refers to the standard output device for a system, normally the monitor. The `out` object itself is an instance of the `PrintStream` class, which contains several methods, including `println()`.

Within the statement `System.out.println("First Java application");`, `System` is a class. Therefore, `System` defines attributes for `System` objects, just as the `Dog` class defines the attributes for `Dog` objects. One of the `System` attributes is `out`. The dots (periods) in `System.out.println()` are used to separate the names of the components in the statement.

63. If you receive no error messages after compiling the code in a file named `First.java`, the application compiled successfully. In that case, a file named `First.class` is created and saved in the same folder as the text file that holds the source code. After a successful compile, you can execute the program (run the class file) on any computer that has a Java Virtual Machine (JVM).

64. Examples of logic errors include multiplying two values when you meant to add, printing one copy of a report when you meant to print five, or forgetting to produce a total at the end of a business report when a user has requested one. Errors of this type must be detected by carefully examining the program output. It is the responsibility of the program author to test programs and find any logic errors. Good programming practices can help to minimize errors.

65. Arguments are pieces of information that are sent to a method. The act of sending arguments to a method is called passing arguments to the method. You pass methods to arguments so they know what information to work with.

66.

In the method header `public static void main(String[] args)`, the word `public` is an access specifier, just as it is when you use it to define the `First` class.

In Java, the reserved keyword `static` means that a method is accessible and usable even though no objects of the class exist.

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The keyword `void` used in the `main()` method header indicates that the `main()` method does not return any value when it is called.

The name of the method is `main()`.

In the method header `public static void main(String[] args)`, the contents between the parentheses, `String[] args`, represent the type of argument that can be passed to the `main()` method.

67.

1. You must compile the class you wrote (called the source code) into bytecode.
2. You must use the Java interpreter to translate the bytecode into executable statements.

68. There is a semicolon missing at the end of the `println` statement that will produce the output.

There is a missing curly brace. Curly braces must be open and closing pairs.

There are missing quotation marks in the `println` statement that will produce the output.