

## Long Practice Exam

### True/False

Indicate whether the statement is true or false.

- \_\_\_ 1. COBOL is an example of a low-level programming language.
- \_\_\_ 2. A peer-to-peer network has a server.
- \_\_\_ 3. The binary number system is referred to as base 10.
- \_\_\_ 4. Majordomo is a mailing list server.
- \_\_\_ 5. Spaces and blank lines in an HTML document affect how it is interpreted.
- \_\_\_ 6. A Java applet must be compiled.
- \_\_\_ 7. A Java applet is always an extension of the Applet class.
- \_\_\_ 8. Classes are required to create objects.
- \_\_\_ 9. An application is a type of package.
- \_\_\_ 10. Packages are importable.
- \_\_\_ 11. Multiple variables with different data types can be declared in a single statement.
- \_\_\_ 12. The `-` operator is used to concatenate the value of a variable to a string.
- \_\_\_ 13. Java packages start with `java` followed by a dot (`.`) and then the package name.
- \_\_\_ 14. A numeric expression contains at least one operand.
- \_\_\_ 15. Real division returns the entire quotient, including the decimal portion.
- \_\_\_ 16. Casting allows real division to be performed on integers.
- \_\_\_ 17. Keywords can be used as variable identifiers.
- \_\_\_ 18. `class` is a keyword.
- \_\_\_ 19. The statement `system.out.println("Hello world!");` will generate a syntax error.
- \_\_\_ 20. The indentation used in an `if-else` statement affects the execution of the statement.
- \_\_\_ 21. Java uses short-circuit evaluation for determining the result of a compound Boolean expression that includes `&&` or `||`.
- \_\_\_ 22. The `do-while` and `while` statements both check the condition at the start of a loop.
- \_\_\_ 23. The `++` operator is used in a `for` statement to automatically increment a counter by 2 during each loop iteration.
- \_\_\_ 24. The `String` class is used for creating objects that store a sequence of characters.
- \_\_\_ 25. The return type `void` means that the method will return a value.
- \_\_\_ 26. Methods can have their own set of variables with a scope limited to that method.
- \_\_\_ 27. Local variables are accessible to any method in the class.

- \_\_\_ 28. Method overloading means that an application contains more than 10 methods.
- \_\_\_ 29. An object's state can be changed through its behavior.
- \_\_\_ 30. A class is written in a separate file.
- \_\_\_ 31. Subclasses inherit the methods of its superclass.
- \_\_\_ 32. When implementing a subclass, existing methods in the base class can be overridden.
- \_\_\_ 33. Members of a base class that are declared `private` are accessible to derived classes.
- \_\_\_ 34. Abstract classes can be instantiated.
- \_\_\_ 35. All data in an array has the same data type.
- \_\_\_ 36. An array can be initialized in the declaration.
- \_\_\_ 37. A linear search never searches an entire array.
- \_\_\_ 38. The `ArrayList` class implements a dynamic array.
- \_\_\_ 39. The `ArrayList` declaration requires an array size.
- \_\_\_ 40. An event-driven application executes all the program code before responding to any events.
- \_\_\_ 41. Labels can be changed by the user.
- \_\_\_ 42. The keyword `this` indicates the object itself.
- \_\_\_ 43. The intersection of a row and a column is called a cell.
- \_\_\_ 44. In a `JComboBox`, the foreground color refers to the color of the text in the list.
- \_\_\_ 45. The selection sort starts by finding the highest number in a list and swapping it with the last item.
- \_\_\_ 46. The selection sort algorithm is more efficient than the insertion sort algorithm.
- \_\_\_ 47. A binary search is more efficient than a linear search.
- \_\_\_ 48. A push operation adds an item to the bottom of a stack.
- \_\_\_ 49. The remove operation removes an item from the front of a queue.
- \_\_\_ 50. A linked list has the same size limitations of data structure that is implemented using an array.

### Multiple Choice

*Identify the choice that best completes the statement or answers the question.*

- \_\_\_ 51. Which is not an input device?
  - a. scanner
  - b. digital camera
  - c. microphone
  - d. printer
- \_\_\_ 52. Which is not an operating system?
  - a. Linux
  - b. Mac OS X Tiger
  - c. Microsoft Office
  - d. Microsoft Windows

- \_\_\_\_\_ 53. The number system used in computers is called
- a. decimal.
  - b. hexadecimal.
  - c. binary.
  - d. base.
- \_\_\_\_\_ 54. A bit is
- a. a single 0 or 1 in the binary code.
  - b. eight 0s or 1s.
  - c. a person's name stored in memory.
  - d. equal to 64K of RAM.
- \_\_\_\_\_ 55. Which prevents unauthorized network access?
- a. a hub
  - b. a router
  - c. a firewall
  - d. a cookie
- \_\_\_\_\_ 56. An intranet
- a. is the largest and most widely accessed network.
  - b. is a network that provides various levels of accessibility to authorized members of the public.
  - c. is a network that is used by a single organization and is only accessible by authorized users.
  - d. is another word for Internet.
- \_\_\_\_\_ 57. Transmitting and receiving data is called
- a. bits per second.
  - b. computer transmitting.
  - c. telecommunications.
  - d. demodulation.
- \_\_\_\_\_ 58. An ISDN is a
- a. cable modem.
  - b. conventional modem.
  - c. subscriber line.
  - d. digital telephone network.
- \_\_\_\_\_ 59. Microsoft Internet Explorer is a
- a. Web site.
  - b. Web page.
  - c. Web browser.
  - d. mailing list server.
- \_\_\_\_\_ 60. A Web beacon
- a. helps protect the privacy of an individual.
  - b. helps you search and access information on the Web.
  - c. is a computer virus.
  - d. is a tiny transparent graphic used to collect data about Web page users.
- \_\_\_\_\_ 61. A text file created by the server computer when a user enters information into a Web site is called a
- a. Web beacon.
  - b. firewall.
  - c. privacy policy.
  - d. cookie.
- \_\_\_\_\_ 62. The act of sending an e-mail that falsely claims to be a legitimate business in an attempt to obtain the user's personal information is called
- a. hacking.
  - b. cracking.
  - c. copyright infringement.
  - d. phishing.
- \_\_\_\_\_ 63. In a JavaScript, a // is used to
- a. specify which scripting language is used to define the scripts.
  - b. display an alert dialog box.
  - c. add a single line comment to a script.
  - d. end a JavaScript statement.

- \_\_\_\_\_ 64. In a JavaScript, a semicolon(;) is used to
- specify which scripting language is used to define the scripts.
  - display an alert dialog box.
  - add a single line comment to a script.
  - end a JavaScript statement.
- \_\_\_\_\_ 65. In a JavaScript, `prompt()`
- displays a prompt dialog box.
  - displays an alert dialog box.
  - displays a single line comment to a script.
  - displays a JavaScript statement.
- \_\_\_\_\_ 66. Which tag is used to move a line of text within a paragraph to the next line?
- `<p>`
  - `<br>`
  - `<hr>`
  - `<html>`
- \_\_\_\_\_ 67. Which tag creates a table header?
- `<table>`
  - `<th>`
  - `<tr>`
  - `<td>`
- \_\_\_\_\_ 68. Java was developed by
- Microsoft.
  - Apple.
  - Sun Microsystems.
  - W3C.
- \_\_\_\_\_ 69. Which statement declares a package with the name `testApplication`?
- `import testApplication;`
  - `package testApplication;`
  - `public package testApplication;`
  - `declare testApplication;`
- \_\_\_\_\_ 70. Which indicates a method that will not return a value?
- `static`
  - `package`
  - `void`
  - `out`
- \_\_\_\_\_ 71. Which type of statement is used to make a package accessible to an application?
- `package`
  - `import`
  - `public`
  - `out`
- \_\_\_\_\_ 72. Which is used to enclose single or multiline comments?
- `/* */`
  - `// //`
  - `/** */`
  - `! !`
- \_\_\_\_\_ 73. Compiled Java source code is called
- bytecode.
  - machine code.
  - source code.
  - compiled code.
- \_\_\_\_\_ 74. Which occurs in a statement that violates the rules of Java?
- a logic error
  - an output error
  - a syntax error
  - an argument
- \_\_\_\_\_ 75. Which is a set of guidelines for writing an application?
- comments
  - code conventions
  - algorithm
  - class
- \_\_\_\_\_ 76. Which is a set of steps that tell how to solve a problem?
- algorithm
  - argument
  - Java application
  - package

- \_\_\_\_\_ 77. Which method displays output to the screen and then moves the insertion point to the next line?
- a. `format()`
  - b. `main()`
  - c. `print()`
  - d. `println()`
- \_\_\_\_\_ 78. Which is a valid declaration statement?
- a. `int height int width;`
  - b. `int height, width;`
  - c. `int height; width;`
  - d. `int height, int width;`
- \_\_\_\_\_ 79. Which operator is used to assign a new value to a variable?
- a. `=`
  - b. `==`
  - c. `*`
  - d. `-`
- \_\_\_\_\_ 80. Which statement assigns the value 15 to `radius`?
- a. `radius = 15;`
  - b. `radius == 15;`
  - c. `15 = radius;`
  - d. `15radius;`
- \_\_\_\_\_ 81. What is the final value of `finalNumber` after the last statement executes?
- ```
int startingNumber = 10;
int finalNumber = 25;
startingNumber = finalNumber / 5;
finalNumber = startingNumber + 5;
```
- a. 5
  - b. 10
  - c. 20
  - d. 25
- \_\_\_\_\_ 82. Which is not a primitive data type?
- a. `int`
  - b. `double`
  - c. `constant`
  - d. `boolean`
- \_\_\_\_\_ 83. A variable declared with a class is called a(n)
- a. method.
  - b. identifier.
  - c. keyword.
  - d. object.
- \_\_\_\_\_ 84. What happens to the decimal portion of a number when a `double` is cast to an `int`?
- a. The decimal portion is truncated.
  - b. The decimal portion is rounded.
  - c. Nothing, a syntax error occurs.
  - d. The value 0.5 is added to the number.
- \_\_\_\_\_ 85. In which situation would the expression `(!x && y) || !(!x || y)` evaluate to true?
- a. if `x` and `y` both have the initial value true
  - b. if `x` and `y` both have the initial value false
  - c. if `x` has the value true and `y` has the value false
  - d. the expression would never evaluate to true
- \_\_\_\_\_ 86. Which statement declares a constant named `PRICE` with a value of 5.25?
- a. `final PRICE = 5.25;`
  - b. `double PRICE = $5.25;`
  - c. `const double PRICE = 5.25;`
  - d. `final double PRICE = 5.25;`
- \_\_\_\_\_ 87. Which statement should be used to decide among three or more actions?
- a. `if` statement
  - b. `if-else` statement
  - c. nested `if-else` statement
  - d. `if-else-if` statement

\_\_\_\_\_ 88. Which will be displayed when the code segment below is run?

```
double grossPay = 4250.50;
if (grossPay > 3000) {
    System.out.println("Your tax rate is 33%");
} else if (grossPay > 4000) {
    System.out.println("Your tax rate is 35%");
}
```

- a. Your tax rate is 33%
- b. Your tax rate is 35%
- c. Your tax rate is 33%  
Your tax rate is 35%
- d. A run-time error will be generated.

\_\_\_\_\_ 89. Given the following code segment:

```
x = 1;
switch (x) {
    case 1: y = 0;
    case 2: y = 1;
    default: y += 1;
}
System.out.println(y);
```

What would be displayed when the segment is run?

- a. 0
- b. 1
- c. 2
- d. 3

\_\_\_\_\_ 90. In a `switch` statement, which code is executed if none of the previous cases are met?

- a. the `break` statement
- b. the last `case` clause
- c. the default clause
- d. No statements are executed.

\_\_\_\_\_ 91. Which statement generates random numbers in the range from 10 to 50?

- a. `(50 - 10 + 1) * Math.random() + 10;`
- b. `(50 - 10) * Math.random();`
- c. `(50 - 10) * Math.random() + 1;`
- d. `(10 - 50) * Math.random();`

\_\_\_\_\_ 92. Given the following code segment:

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

What is range of the random number generated?

- a. between 0.0 and 100.0
- b. between 1.0 and 10.0
- c. between 0.0 and 1.0
- d. No random number will be generated because no range was indicated.

\_\_\_\_\_ 93. Which is equivalent to the expression `!(x && y)`?

- a. `(!x) || (!y)`
- b. `!(x || y)`
- c. `(x || y) && (x && y)`
- d. `(x || y)`

- \_\_\_\_\_ 94. Which is not a logical operator?
- a. And
  - b. Or
  - c. Not
  - d. if

- \_\_\_\_\_ 95. Which statement will display the value of 4.0?
- a. `System.out.println(Math.sqrt(2));`
  - b. `System.out.println(Math.abs(-16));`
  - c. `System.out.println(Math.pow(2, 2));`
  - d. `System.out.println(Math.pow(2));`

- \_\_\_\_\_ 96. *Given the following code segment:*

```
int x = 100;
int num = 10;
do {
    num = num + 10;
    System.out.print(num + " ");
} while (num <= x);
```

Which will be displayed when the code segment is executed?

- a. 10 20 30 40 50 60 70 80 90
  - b. 10 20 30 40 50 60 70 80 90 100
  - c. 10 20 30 40 50 60 70 80 90 110
  - d. 20 30 40 50 60 70 80 90 100 110
- \_\_\_\_\_ 97. *Given the following code segment:*

```
int x = 0;
int num = 10;
while (num > x) {
    num = num + 2;
}
```

How many times will the body of the loop execute?

- a. 0
- b. 2
- c. 5
- d. an infinite number

*Given the following code segment:*

```
while (quantityReceived != SENTINEL) {
    numShipments += 1;
    inStock += quantityReceived;
    System.out.print("Enter a value(" + SENTINEL + " to quit): ");
    quantityReceived = input.nextInt();
}
```

- \_\_\_\_\_ 98. In the code segment above, which variable is the accumulator?
- a. `quantityReceived`
  - b. `numShipments`
  - c. `inStock`
  - d. `SENTINEL`

\_\_\_ 99. Given the following code segment:

```
for (int i = 1; i <= 10; i++) {  
    System.out.println(i);  
}
```

What value of *i* is displayed in the last loop iteration?

- a. 1
- b. 10
- c. 11
- d. 12

\_\_\_ 100. Given the following code segment:

```
for (int i = 0; i < 10; i++) {  
    for (int j = 0; j < 3; j++) {  
        System.out.print("#");  
    }  
}
```

How many number signs will be displayed when the code segment is run?

- a. 3
- b. 4
- c. 30
- d. 300

\_\_\_ 101. Given the following code segments:

```
I. int a = 0;  
   int b = 10;  
   while (b > 0) {  
       a++;  
       b--;  
   }  
   System.out.print(a);
```

```
II. b = 10;  
    for (int a = 0; b > 0; b--) {  
        a++;  
    }  
    System.out.print(a);
```

Which statement is true?

- a. The output of I and II will be the same.
- b. The output of I will be 10 and the output of II will be 12345678910.
- c. Segment II will generate a syntax error.
- d. Segment II will generate an infinite loop.

\_\_\_ 102. Given the following code segments:

```
I.  int i = 1;
    while (i <= 20) {
        System.out.println(i);
        i += 2;
    }

II. for (int i = 0; i < 10; i++) {
    System.out.println(2 * i + 1);
}

III. for (int i = 1; i <= 20; i++) {
    i++;
    System.out.println(i);
}
```

Which of the three segments will produce the same output?

- a. I and II only
- b. I and III only
- c. I and II only
- d. I, II, and III

\_\_\_ 103. Given the following code segment:

```
String Name = "MichaelWatson";
String newName;
newName = Name.replaceFirst("ael", "elle");
```

What is the value of `newName` after the statements execute?

- a. MichaelWatson
- b. Michelle
- c. MichelleWatson
- d. Watson

\_\_\_ 104. Given the following code segment:

```
System.out.println(newName);
String greeting = "HELLO";
String greeting2 = "Hello";
int value;
value = greeting.compareToIgnoreCase(greeting2);
```

Which is stored in `value` after the statements execute?

- a. the value 0
- b. a positive number
- c. a negative number
- d. the value False

\_\_\_ 105. A problem-solving approach that breaks tasks into smaller subtasks is called

- a. bottom-up development.
- b. task division development.
- c. top-down development.
- d. procedural development.

\_\_\_ 106. A method is executed when it is

- a. typed.
- b. called.
- c. declared.
- d. named.

\_\_\_ 107. Which keyword declares a method a class method?

- a. `static`
- b. `void`
- c. `public`
- d. `call`

- \_\_\_\_ 108. Which statement calls the method `inchesToCentimeters()`?
- a. `call inchesToCentimeters;`
  - b. `inchesToCentimeters(call);`
  - c. `inchesToCentimeters();`
  - d. `execute inchesToCentimeters();`
- \_\_\_\_ 109. How many arguments are passed in the statement `checkGuess(i, valItem)`?
- a. 1
  - b. 2
  - c. 3
  - d. 4
- \_\_\_\_ 110. *Given the following application:*

```
public class Comparison {  
  
    public static double maxNum(int num1, int num2) {  
        if (num1 > num2) {  
            return num1;  
        } else {  
            return (num2);  
        }  
    }  
  
    public static double maxNum(int value1, int value2) {  
        if (value1 > value2) {  
            return value1;  
        } else {  
            return (value2);  
        }  
    }  
  
    public static void main(String[] args) {  
        System.out.println(maxNum(1, 2));  
    }  
}
```

Which will be displayed when the application is run?

- a. 1
  - b. 2
  - c. 2.0
  - d. A syntax error will be generated.
- \_\_\_\_ 111. *Given the following code segment:*

```
public static int prob2(int x, int y) {  
    int j;  
    j = y + 2;  
    j += x * 2;  
    return(j);  
}  
  
public static void main(String[] args) {  
    int j = 6, k = 4;  
    j = prob2(j, k);  
    System.out.println(j);  
}
```

Which will be displayed after the code executes?

- a. 12
- b. 18
- c. 24
- d. A syntax error will be generated.

- \_\_\_\_ 112. A statement of what must be true at the end of the execution of a procedure is called a(n)
- a. precondition.
  - b. postcondition.
  - c. ending comment.
  - d. procedure condition.
- \_\_\_\_ 113. Which is true about objects?
- I. Objects can store data.
  - II. Objects can perform actions.
  - III. Objects can provide communication.
- a. I only
  - b. I and II only
  - c. II and III only
  - d. I, II, and III
- \_\_\_\_ 114. Which is a data type that defines variables for the state of an object and methods for an object's behavior?
- a. String
  - b. class
  - c. encapsulation
  - d. int
- \_\_\_\_ 115. Which is included in a class declaration?
- I. access level
  - II. keyword `class`
  - III. class name
  - IV. class body
- a. I and II only
  - b. I, II, and III only
  - c. II, III, and IV only
  - d. III and IV only
- \_\_\_\_ 116. Which are called to change the value of a variable?
- a. accessor methods
  - b. modifier methods
  - c. helper methods
  - d. constructor methods
- \_\_\_\_ 117. When a subclass redefines a superclass method, the subclass method
- a. overrides the superclass method.
  - b. inherits the superclass method.
  - c. encapsulates the superclass method.
  - d. casts the superclass method.
- \_\_\_\_ 118. Which will be generated if an Object variable is cast with an incompatible class?
- a. a syntax error
  - b. a logic error
  - c. InputMismatchException
  - d. ClassCastException

```
public class Moo {  
    private int i;  
  
    public Moo {  
        i = 100;  
    }  
  
    public void setI(int j) {  
        i = j;  
    }  
  
    public int getI() {  
        return(i);  
    }  
  
    public int calculate() {  
        i = i * factor();  
        return(i);  
    }  
  
    private int factor() {  
        return(1.2);  
    }  
}
```

- \_\_\_ 119. Which is the name of the data member?  
a. i  
b. j  
c. Moo  
d. factor
- \_\_\_ 120. Which is the modifier member?  
a. calculate()  
b. factor()  
c. getI()  
d. setI()
- \_\_\_ 121. Which is the name of the constructor?  
a. calculate  
b. factor  
c. getI()  
d. Moo

```
public class Roo {  
    private double i;  
    private double i;  
    private static int j;  
    private static final int k;
```

- \_\_\_ 122. Which data member is an instance member?  
a. i  
b. j  
c. k  
d. Roo
- \_\_\_ 123. Which keyword is used to access methods of the base class?  
a. static  
b. interface  
c. extends  
d. super

Given the following code segment:

```
public class Box extends Square {
    private double sides;
```

- \_\_\_ 124. Which is the derived class?
- |           |            |
|-----------|------------|
| a. Square | c. sides   |
| b. Box    | d. extends |
- \_\_\_ 125. A data item in an array is called a(n)
- |             |             |
|-------------|-------------|
| a. index.   | c. datum.   |
| b. element. | d. pointer. |

\_\_\_ 126. Given the following code segment:

```
public class Test {
    public static void main(String[] args) {
        int[] i = new int[10];
        System.out.println("The value of i[2] is: " + i[2]);
    }
}
```

Which will be displayed after the code executes?

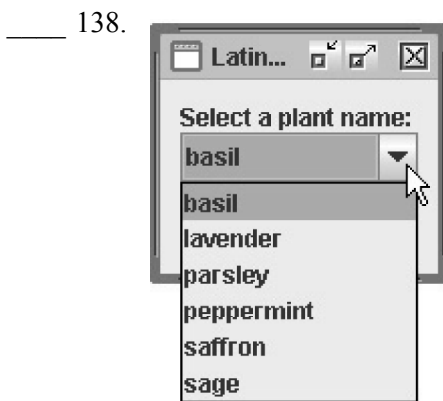
- |                                                                        |
|------------------------------------------------------------------------|
| a. The value of i[2] is 0.                                             |
| b. The value of i[2] is 2.                                             |
| c. The value of i[2] is 10.                                            |
| d. A run-time error is generated because i[2] is not assigned a value. |
- \_\_\_ 127. Given the following code segment:

```
public class Test {
    public static void main(String[] args) {
        int[] x = {1, 2, 3, 4};
        for (int i = 0; i < x.length; i++) {
            System.out.print(x[i] + " ");
        }
    }
}
```

Which will be displayed after the code executes?

- |              |            |
|--------------|------------|
| a. 0 1 2 3   | c. 1 2 3 4 |
| b. 0 1 2 3 4 | d. x + 4   |
- \_\_\_ 128. Which structure is best for accessing array elements?
- |                  |                      |
|------------------|----------------------|
| a. while loop    | c. for loop          |
| b. do-while loop | d. if-else statement |
- \_\_\_ 129. When an array is passed to a method, the method receives
- |                                 |                                     |
|---------------------------------|-------------------------------------|
| a. a copy of the array.         | c. the reference to the elements.   |
| b. a copy of the first element. | d. the data stored in each element. |
- \_\_\_ 130. Which is stored when a letter is assigned a char variable?
- |                                             |
|---------------------------------------------|
| a. the binary representation of the letter  |
| b. the Unicode representation of the letter |
| c. the actual letter                        |
| d. an index value between 1 and 26          |

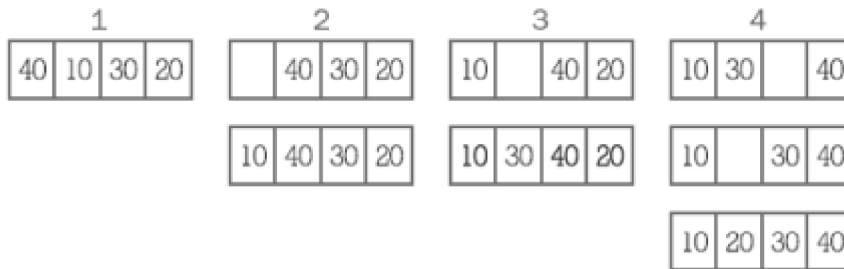
- \_\_\_\_ 131. Which statement properly declares a two-dimensional array with 9 String elements?
- `String[] gameBoard = new String [3][3];`
  - `String[][] gameBoard = new String [3][3];`
  - `String[][] gameBoard = new String [9];`
  - `String[9] gameBoard = new String [3][3];`
- \_\_\_\_ 132. Which property can be used to return the number of rows in an array?
- `length`
  - `size`
  - `rank`
  - `noRows`
- \_\_\_\_ 133. Which JLabel class content indicates left alignment?
- `LEFT`
  - `DEFAULT`
  - `LEADING`
  - `TRAILING`
- \_\_\_\_ 134. Which JFrame method sizes the frame so that all of its contents are at or above their preferred size?
- `setDefaultLookAndFeelDecorated()`
  - `setContentPane()`
  - `pack()`
  - `setVisible()`
- \_\_\_\_ 135. Which layout manager places components one next to the other in a row?
- FlowLayout manager
  - BoxLayout manager
  - GridLayout manager
  - BorderLayout manager
- \_\_\_\_ 136. Which do the arguments represent in the statement `contentPane.setLayout(new GridLayout(0, 2, 10, 6))`?
- as many rows as needed, 2 columns, 10 pixels between columns, 6 pixels between rows
  - as many columns as needed, 2 rows, 10 pixels between columns, 6 pixels between rows
  - 0 pixels between rows, 2 pixels between columns, 10 rows, 6 columns
  - 0 pixels between columns, 2 pixels between rows, 10 rows, 6 columns
- \_\_\_\_ 137. Which allows the user to enter information at run time?
- label
  - button
  - text field
  - frame



Which type of component is used in the GUI above to select a plant name?

- label
  - button
  - text field
  - combo box
- \_\_\_\_ 139. What are the first two elements swapped in an array that stores 32, 15, 20, 9, 68 using a selection sort that sorts from low to high?
- 32 and 15
  - 9 and 68
  - 20 and 9
  - 32 and 9

- \_\_\_ 140. Which method in a class is used to determine order?
  - a. equals()
  - b. compareTo()
  - c. order()
  - d. sort()
- \_\_\_ 141. The Comparable interface must be implemented if objects are to be
  - a. sorted.
  - b. searched.
  - c. deleted.
  - d. represented graphically.
- \_\_\_ 142. Which algorithm starts by sorting the first two items in a list?
  - a. selection sort
  - b. insertion sort
  - c. mergesort
  - d. divide and conquer sort
- \_\_\_ 143. Which algorithm is illustrated in the visual below?



- a. selection sort
  - b. insertion sort
  - c. mergesort
  - d. binary search
- \_\_\_ 144. The process when a method calls itself is referred to as
    - a. polymorphism.
    - b. inheritance.
    - c. recursion.
    - d. sorting.
  - \_\_\_ 145. *Given the following code segment:*

```
public void whatzOutput(int x) {
    if (x > 0) {
        for (int y = 0; y < x; y++) {
            System.out.print("*");
        }
        System.out.println();
        whatzOutput(x - 1);
    }
}
```

Which is displayed when `whatzOutput(5)` is called?

- a. \*\*\*\*\*
- b. \*\*\*\*\*
- c. \*\*\*\*\*  
\*\*\*\*  
\*\*\*  
\*\*  
\*
- d. \*  
\*\*  
\*\*\*  
\*\*\*\*  
\*\*\*\*\*

\_\_\_\_ 146. Which algorithms take a divide and conquer approach?

- I. Selection Sort
- II. Insertion Sort
- III. Mergesort
- IV. Binary search

- a. I and II
- b. I, II, and III
- c. III and IV
- d. I, III, and IV

\_\_\_\_ 147. Depth-first searching is typically

- a. performed using multiple recursive calls.
- b. used to efficiently search an array for an item.
- c. performed using nested loops.
- d. used to merge two arrays.

\_\_\_\_ 148. Given the following code segment:

```
public static void main(String[] args) {
    Stack s = new Stack(10);
        s.push(5);
        s.push(8);
        s.push(4);
        s.pop();
        System.out.println(s.top());
    }
}
```

Which will be displayed when the code is run?

- a. 4
- b. 5
- c. 8
- d. 10

\_\_\_\_ 149. Given the following code segment:

```
public static void main(String[] args) {
    Stack s = new Stack(10);
        s.push(2);
        s.push(3);
        System.out.println(s.isEmpty());
    }
}
```

Which will be displayed when the code is run?

- a. 0
- b. 1
- c. true
- d. false

\_\_\_\_ 150. Which situations could be represented in a queue?

- I. ticket line
- II. lines at a toll booth
- III. stand-by list for plane seats

- a. I only
- b. I and II only
- c. I and III only
- d. I, II, and III

## Long Practice Exam Answer Section

### TRUE/FALSE

|            |        |                                                        |
|------------|--------|--------------------------------------------------------|
| 1. ANS: F  | PTS: 1 | TOP: Programming Languages                             |
| 2. ANS: F  | PTS: 1 | TOP: Networks                                          |
| 3. ANS: F  | PTS: 1 | TOP: Number Systems                                    |
| 4. ANS: T  | PTS: 1 | TOP: Internet Services: Web, E-mail, and Mailing Lists |
| 5. ANS: F  | PTS: 1 | TOP: Creating an HTML Document                         |
| 6. ANS: T  | PTS: 1 | TOP: Java Applets                                      |
| 7. ANS: T  | PTS: 1 | TOP: Java Applets                                      |
| 8. ANS: T  | PTS: 1 | TOP: Objects, Classes, and Packages                    |
| 9. ANS: T  | PTS: 1 | TOP: Objects, Classes, and Packages                    |
| 10. ANS: T | PTS: 1 | TOP: Objects, Classes, and Packages                    |
| 11. ANS: F | PTS: 1 | TOP: Declaring Variables                               |
| 12. ANS: F | PTS: 1 | TOP: Using Variables                                   |
| 13. ANS: T | PTS: 1 | TOP: Java Packages                                     |
| 14. ANS: T | PTS: 1 | TOP: Numeric Expressions                               |
| 15. ANS: T | PTS: 1 | TOP: Numeric Expressions                               |
| 16. ANS: T | PTS: 1 | TOP: Type Casting                                      |
| 17. ANS: F | PTS: 1 | TOP: Identifiers and Keywords                          |
| 18. ANS: T | PTS: 1 | TOP: Identifiers and Keywords                          |
| 19. ANS: T | PTS: 1 | TOP: Programming Errors                                |
| 20. ANS: F | PTS: 1 | TOP: The if-else Statement                             |
| 21. ANS: T | PTS: 1 | TOP: Compound Boolean Expressions                      |
| 22. ANS: F | PTS: 1 | TOP: The do-while Statement                            |
| 23. ANS: F | PTS: 1 | TOP: The for Statement                                 |
| 24. ANS: T | PTS: 1 | TOP: The String Class                                  |
| 25. ANS: F | PTS: 1 | TOP: Writing Methods                                   |
| 26. ANS: T | PTS: 1 | TOP: Writing Methods                                   |
| 27. ANS: F | PTS: 1 | TOP: Writing Methods                                   |
| 28. ANS: F | PTS: 1 | TOP: Method Overloading                                |
| 29. ANS: T | PTS: 1 | TOP: What is an Object?                                |
| 30. ANS: T | PTS: 1 | TOP: Designing and Writing a Class                     |
| 31. ANS: T | PTS: 1 | TOP: The Object Class                                  |
| 32. ANS: T | PTS: 1 | TOP: Implementing a Subclass                           |
| 33. ANS: F | PTS: 1 | TOP: Implementing a Subclass                           |
| 34. ANS: F | PTS: 1 | TOP: Abstract Classes                                  |
| 35. ANS: T | PTS: 1 | TOP: Declaring Arrays                                  |
| 36. ANS: T | PTS: 1 | TOP: Declaring Arrays                                  |
| 37. ANS: F | PTS: 1 | TOP: Searching an Array                                |
| 38. ANS: T | PTS: 1 | TOP: The ArrayList Class                               |
| 39. ANS: F | PTS: 1 | TOP: The ArrayList Class                               |

|     |        |        |                                     |
|-----|--------|--------|-------------------------------------|
| 40. | ANS: F | PTS: 1 | TOP: What is a GUI?                 |
| 41. | ANS: F | PTS: 1 | TOP: The Swing Package              |
| 42. | ANS: T | PTS: 1 | TOP: Handling Events                |
| 43. | ANS: T | PTS: 1 | TOP: Controlling Layout             |
| 44. | ANS: T | PTS: 1 | TOP: Changing Colors                |
| 45. | ANS: F | PTS: 1 | TOP: Selection Sort                 |
| 46. | ANS: F | PTS: 1 | TOP: Insertion Sort                 |
| 47. | ANS: T | PTS: 1 | TOP: Binary Search                  |
| 48. | ANS: F | PTS: 1 | TOP: The Stack Data Structure       |
| 49. | ANS: F | PTS: 1 | TOP: The Queue Data Structure       |
| 50. | ANS: F | PTS: 1 | TOP: The Linked List Data Structure |

**MULTIPLE CHOICE**

|     |        |        |                                                        |
|-----|--------|--------|--------------------------------------------------------|
| 51. | ANS: D | PTS: 1 | TOP: Desktop Computing                                 |
| 52. | ANS: C | PTS: 1 | TOP: Operating Systems and Environment                 |
| 53. | ANS: C | PTS: 1 | TOP: Number Systems                                    |
| 54. | ANS: A | PTS: 1 | TOP: Number Systems                                    |
| 55. | ANS: C | PTS: 1 | TOP: Intranet, Extranet, Internet                      |
| 56. | ANS: C | PTS: 1 | TOP: Intranet, Extranet, Internet                      |
| 57. | ANS: C | PTS: 1 | TOP: Telecommunications                                |
| 58. | ANS: D | PTS: 1 | TOP: Telecommunications                                |
| 59. | ANS: C | PTS: 1 | TOP: Internet Services: Web, E-mail, and Mailing Lists |
| 60. | ANS: D | PTS: 1 | TOP: Internet Privacy Issues                           |
| 61. | ANS: D | PTS: 1 | TOP: Internet Privacy Issues                           |
| 62. | ANS: D | PTS: 1 | TOP: Protecting Computer Software and Data             |
| 63. | ANS: C | PTS: 1 | TOP: JavaScript                                        |
| 64. | ANS: D | PTS: 1 | TOP: JavaScript                                        |
| 65. | ANS: A | PTS: 1 | TOP: JavaScript                                        |
| 66. | ANS: B | PTS: 1 | TOP: HTML Tags                                         |
| 67. | ANS: B | PTS: 1 | TOP: Hyperlinks, Tables, and Images                    |
| 68. | ANS: C | PTS: 1 | TOP: Why Program in Java?                              |
| 69. | ANS: B | PTS: 1 | TOP: A Java Application                                |
| 70. | ANS: C | PTS: 1 | TOP: A Java Application                                |
| 71. | ANS: B | PTS: 1 | TOP: A Java Application                                |
| 72. | ANS: A | PTS: 1 | TOP: A Java Application                                |
| 73. | ANS: A | PTS: 1 | TOP: Executing a Java Application                      |
| 74. | ANS: C | PTS: 1 | TOP: Executing a Java Application                      |
| 75. | ANS: B | PTS: 1 | TOP: Code Conventions                                  |
| 76. | ANS: A | PTS: 1 | TOP: Algorithm Design                                  |
| 77. | ANS: D | PTS: 1 | TOP: Displaying Output                                 |
| 78. | ANS: B | PTS: 1 | TOP: Declaring Variables                               |
| 79. | ANS: A | PTS: 1 | TOP: Using Variables                                   |
| 80. | ANS: A | PTS: 1 | TOP: Using Variables                                   |

|      |        |        |                                               |
|------|--------|--------|-----------------------------------------------|
| 81.  | ANS: B | PTS: 1 | TOP: Using Variables                          |
| 82.  | ANS: C | PTS: 1 | TOP: Primitive Data Types                     |
| 83.  | ANS: D | PTS: 1 | TOP: Abstract Data Types                      |
| 84.  | ANS: A | PTS: 1 | TOP: Type Casting                             |
| 85.  | ANS: C | PTS: 1 | TOP: Compound Boolean Expressions             |
| 86.  | ANS: D | PTS: 1 | TOP: Using Named Constants                    |
| 87.  | ANS: D | PTS: 1 | TOP: The if-else if Statement                 |
| 88.  | ANS: A | PTS: 1 | TOP: The if-else if Statement                 |
| 89.  | ANS: C | PTS: 1 | TOP: The switch Statement                     |
| 90.  | ANS: C | PTS: 1 | TOP: The switch Statement                     |
| 91.  | ANS: A | PTS: 1 | TOP: Generating Random Numbers                |
| 92.  | ANS: C | PTS: 1 | TOP: Generating Random Numbers                |
| 93.  | ANS: A | PTS: 1 | TOP: Compound Boolean Expressions             |
| 94.  | ANS: D | PTS: 1 | TOP: Compound Boolean Expressions             |
| 95.  | ANS: C | PTS: 1 | TOP: The Math Class                           |
| 96.  | ANS: D | PTS: 1 | TOP: The do-while Statement                   |
| 97.  | ANS: D | PTS: 1 | TOP: Infinite Loops                           |
| 98.  | ANS: C | PTS: 1 | TOP: Counters and Accumulators                |
| 99.  | ANS: B | PTS: 1 | TOP: The for Statement                        |
| 100. | ANS: C | PTS: 1 | TOP: The for Statement                        |
| 101. | ANS: C | PTS: 1 | TOP: The for Statement                        |
| 102. | ANS: C | PTS: 1 | TOP: The for Statement                        |
| 103. | ANS: C | PTS: 1 | TOP: The String Class                         |
| 104. | ANS: A | PTS: 1 | TOP: Comparing Strings                        |
| 105. | ANS: C | PTS: 1 | TOP: Program Development Using Methods        |
| 106. | ANS: B | PTS: 1 | TOP: Program Development Using Methods        |
| 107. | ANS: A | PTS: 1 | TOP: Writing Methods                          |
| 108. | ANS: C | PTS: 1 | TOP: Program Development Using Methods        |
| 109. | ANS: B | PTS: 1 | TOP: Method Parameters                        |
| 110. | ANS: D | PTS: 1 | TOP: Method Overloading                       |
| 111. | ANS: B | PTS: 1 | TOP: Method Parameters   The return Statement |
| 112. | ANS: B | PTS: 1 | TOP: Documenting Methods                      |
| 113. | ANS: D | PTS: 1 | TOP: What is an Object?                       |
| 114. | ANS: B | PTS: 1 | TOP: What is an Object?                       |
| 115. | ANS: B | PTS: 1 | TOP: Designing and Writing a Class            |
| 116. | ANS: B | PTS: 1 | TOP: Designing and Writing a Class            |
| 117. | ANS: A | PTS: 1 | TOP: The Object Class                         |
| 118. | ANS: D | PTS: 1 | TOP: The Object Class                         |
| 119. | ANS: A | PTS: 1 | TOP: Designing and Writing a Class            |
| 120. | ANS: D | PTS: 1 | TOP: Designing and Writing a Class            |
| 121. | ANS: D | PTS: 1 | TOP: Designing and Writing a Class            |
| 122. | ANS: B | PTS: 1 | TOP: Instance and Class Members               |
| 123. | ANS: D | PTS: 1 | TOP: Implementing a Subclass                  |
| 124. | ANS: B | PTS: 1 | TOP: Implementing a Subclass                  |

|      |        |        |                                  |
|------|--------|--------|----------------------------------|
| 125. | ANS: B | PTS: 1 | TOP: Declaring Arrays            |
| 126. | ANS: A | PTS: 1 | TOP: Declaring Arrays            |
| 127. | ANS: C | PTS: 1 | TOP: Using Arrays                |
| 128. | ANS: C | PTS: 1 | TOP: Using Arrays                |
| 129. | ANS: C | PTS: 1 | TOP: Array Parameters            |
| 130. | ANS: B | PTS: 1 | TOP: Characters and Arrays       |
| 131. | ANS: B | PTS: 1 | TOP: Two-Dimensional Arrays      |
| 132. | ANS: A | PTS: 1 | TOP: Two-Dimensional Arrays      |
| 133. | ANS: C | PTS: 1 | TOP: The Swing Package           |
| 134. | ANS: C | PTS: 1 | TOP: The Swing Package           |
| 135. | ANS: A | PTS: 1 | TOP: Controlling Layout          |
| 136. | ANS: A | PTS: 1 | TOP: Controlling Layout          |
| 137. | ANS: C | PTS: 1 | TOP: Getting Input from the User |
| 138. | ANS: D | PTS: 1 | TOP: Combo Boxes                 |
| 139. | ANS: D | PTS: 1 | TOP: Selection Sort              |
| 140. | ANS: B | PTS: 1 | TOP: Sorting Objects             |
| 141. | ANS: A | PTS: 1 | TOP: Sorting Objects             |
| 142. | ANS: B | PTS: 1 | TOP: Insertion Sort              |
| 143. | ANS: B | PTS: 1 | TOP: Insertion Sort              |
| 144. | ANS: C | PTS: 1 | TOP: Recursion                   |
| 145. | ANS: C | PTS: 1 | TOP: Recursion                   |
| 146. | ANS: C | PTS: 1 | TOP: Mergesort   Binary Search   |
| 147. | ANS: A | PTS: 1 | TOP: Depth-First Searching       |
| 148. | ANS: C | PTS: 1 | TOP: The Stack Class             |
| 149. | ANS: D | PTS: 1 | TOP: The Stack Data Structure    |
| 150. | ANS: D | PTS: 1 | TOP: The Queue Data Structure    |