Name: _____ **Class:** _____ **Date:** _____ **ID: A**

Java Spring 2018 Exam

Multiple Choice

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

____ 1. Consider the array

```
int nums[]={3, 20, 0, 8, 16, 15, 5};
```

The value of nums[4]=

a. **16**
c. 20
b. 8
d. 4

Assume the following declaration:

```
int List[]=new int[9];
String Grade[]=new String[5];
String myArray[];
```

____ 2. The elements of the Grade array may store grades of what type?

a. boolean
d. double
b. String
e. Any legal type.
c. int

____ 3. Which of the following statements would create an error?

a. `List[0]=9;`
d. `List[9]=5;`
b. `Grade[2]="Hello";`
e. `List[1]=List[2];`
c. `Grade[4]="123";`

____ 4. How many grades can the Grade array store?

a. 3
d. 6
b. 4
e. It depends upon how many grades are assigned when the program is run.
c. 5

____ 5. Which of the following statements assigns a "B" to the 2nd element in the Grade array?

a. `Grade[2]='B'`
d. `Grade[1] ='B'`
b. `Grade[1]="B"`
e. It is not possible to assign a value to the 2 element in the array.
c. `Grade[2]="B"`

____ 6. The `List.length` is

a. 7
c. 9
b. 8
d. 10

____ 7. An element of an array is:

a. the name given to the entire array.
c. the type of the array.
b. a single entry in the array.
d. only the first value in the array.

____ 8. An individual element in the array is addressed by specifying:
a. the name of the array and the index of the element.
b. the name of the array.
c. the index of the element within the array followed by the name of the array.
d. the index of the element in the array.

____ 9. The `G[7]` represents
a. the seventh element from the array called G.
b. seven elements from the array called G.
c. the eigth element from the array called G.
d. eight elements from the array called G.

____ 10. The subscript in an array can be:
a. a number.
b. a variable name.
c. an arithmetic expression.
d. all of the above.

____ 11. The following coding could be used to load data into a:

```
for (int S1 = 0;S1<=4;S1++)
   F[S1]=S1;
```

a. one element array called F.
b. one element array called S1.
c. five element array called S1.
d. five element array called F.

____ 12. A list of related objects called an:
a. array
b. variable
c. subscripted variable
d. both A and C

____ 13. The Bubble Sort:
a. involves making very few comparisons.
b. is the most efficient sort.
c. can be used to alphabetize data.
d. is used to randomize data

____ 14. How many elements can be in a array defined by

```
double List[]=new double[10];
```

a. 0
b. 11
c. 9
d. 10

____ 15. In the statement `A[3]= 5;` the index is:
a. A
b. 3
c. A(3)
d. 5

Let the diagram of an array named *lastarr* of type String be

Smith	Jones	Brown	Lock

____ 16. `lastarr.length` is
a. 2
b. 3
c. 4
d. 5

____ 17. `lastarr[2]` is
a. Smith
b. Jones
c. Brown
d. Lock

____ 18. What name is the 2nd element in the array?

a. Smith
b. Jones
c. Brown
d. Lock

____ 19. What name is stored at index 2 in the array?

a. Smith
b. Jones
c. Brown
d. Lock

____ 20. The index of the last element of the array is?

a. 3
b. 4
c. 5
d. 0

____ 21. Show how to use the *Scanner* class to create a *Scanner scr* object that could be used to read lines of text from the file *C:\MyData\Data1.txt*.

a. Scanner scr = new Scanner(new File("C:\MyData\Data1.txt"));
b. Scanner scr = new Scanner(new File("C:\\MyData\\Data1.txt"));
c. Scanner scr = new Scanner(new File("C://MyData//Data1.txt"));
d. Scanner scr = new Scanner("C:\\MyData\\Data1.txt");
e. Scanner scr = new Scanner(File("C:\\MyData\\Data1.txt"));

____ 22. How would you use an *scr* object that reads a disk file to read a line of text from that file and store it in *String s*?

a. String s = scr.nextLine( );
b. String s = scr.next( );
c. String s = scr.nextLine;
d. String s = nextLine(scr);
e. None of these

____ 23. What import is needed for the *Scanner* class?

a. import java.io.*;
b. import java.text.*;
c. import java.nerdstuff.*;
d. import java.awt.*
e. None of these

____ 24. After you open a file and you are finished inputting from the file, what's the last thing you should do with the *Scanner* object?

a. Delete the file with *scr.delete( );*
b. Append the file with *scr.append( );*
c. Close the file with *scr.close( );*
d. Renew the file with *scr.renew( );*
e. None of these

____ 25. Show how to use the *FileWriter* and *PrintWriter* classes to create a *PrintWriter pw* object that could be used to write lines of text to the file *C:\MyData\Data1.txt*.

a. FileWriter fw = new FileWriter("C:\\MyData\\Data1.txt");
PrintWriter pw = new PrintWriter(fw);

b. FileWriter fw = new FileWriter("C:\MyData\Data1.txt");
PrintWriter pw = new PrintWriter(fw);

c. FileWriter fw = FileWriter("C:\\MyData\\Data1.txt");
PrintWriter pw = PrintWriter(fw);

d. FileWriter fw = FileWriter("C:\\MyData\\Data1.txt");
PrintWriter pw = new PrintWriter(new fw);

e. None of these

____ 26. How would you use the *pw* object from the previous problem to write *String s* to the *Data1.txt* file?

a. s.println(pw);
b. pw.print(s);
c. pw.System.out.println(s);
d. pw.println(s);
e. None of these

____ 27. Why is it so important to close a file that has been opened with *FileWriter*?

a. It's not important.
b. This prevents the computer from spinning the hard disk excessively.
c. This prevents the computer from running low on memory.
d. Some of the information "written" to the file may not actually be sent to the file until the file is closed.
e. None of these

____ 28. How many elements are stored in `double d[]`? Store the answer in an appropriate variable type.

a. int i = d.length( );
b. int i = d.length;
c. int i = (double)d.length;
d. More than one of these
e. None of these

____ 29. Which line of code will store the odd integers from 1 to 15 in an integer array called *ary*?

a. int ary[] = {1,3,5,7,9,11,13,15};
b. int []ary = {1,3,5,7,9,11,13,15};
c. int ary[] = int{1,3,5,7,9,11,13,15};
d. More than one of these
e. None of these

____ 30. Which of the following is a correct way to declare a *String* array?

a. String []s;
b. String s[];
c. Both A and B
d. String s;
e. None of these

____ 31. Which of the following is a correct way to **pass** a *double* array called *dd* to a method called *maxVert*?

a. maxVert(double []dd);
b. maxVert(double dd[]);
c. maxVert(dd[]);
d. maxVert(dd);
e. Both A and B

____ 32. Which of the following signatures of the method *maxVert* is a correct way to **receive** as a parameter the *double* array called *vv*?

a. public void maxVert(double []vv)
b. public void maxVert(double vv[])
c. public void maxVert(vv[])
d. public void maxVert(vv)
e. Both A and B

____ 33. A software program's ability to _____ allows it to follow alternate paths of execution based on the evaluation of condtions.

a. branch
b. iterate
c. loop
d. short-circuit evaluation

____ 34. The Java keyword that allows programs to compare a single variable to multiple possible variables is the _____.

a. BREAK keywork
b. switch statement
c. logical OR
d. CONTINUE keyword

____ 35. The Java symbols that are used to create compound conditions are called _____ operators.

a. logical
b. loop
c. for loop
d. ternary

____ 36. The process of executing a set of intructions numerous times is called program _____.

a. iteration
b. branching
c. ternary operator
d. looping

____ 37. The Java keyword that causes a program loop to terminate immediately without re-evaluating its terminating condition is the _____.

a. BREAK keyword
b. logical OR
c. CONTINUE keyword
d. logical AND

____ 38. The optional part of Java IF statement that is executed is when a condition is not true is called the _____ clause.

a. default
b. loop
c. else
d. switch

____ 39. The Java _____ operator allows programmers to conditionally assign one of two values to a variable.

a. binary
b. unary
c. ternary
d. itinary

____ 40. The Java logical operator that inverts the state of a logical condition is called the _____.
a. NOT
b. AND
c. SWITCH
d. OR

____ 41. A Java _____ loop will typically execute a predetermined number of times.
a. for
b. while
c. do...while
d. logical and

____ 42. The Java _____ keyword causes a program to proceed directly to the next iteration of a loop without processing the remainder of the current statement block.
a. do
b. break
c. continue
d. loop

____ 43. A Java object that responds to a user or system-generated event is called a(n) _____.
a. event listener
b. event source
c. event
d. mouse event

____ 44. Java objects that wish to be notified when mouse events occur must implement the _____.
a. mouse event
b. MouseListener interface
c. timer
d. event source

____ 45. Java objects that wish to be notified when Timer events occur must implement the _____.
a. Timer event
b. timer
c. inner class
d. ActionListener interface

____ 46. An unnamed class that is defined inside of another Java class is called a(n) _____.
a. inner class
b. mouse event
c. event source
d. implements keyword

____ 47. Any Java class or system entity that causes an event to fire is called an _____.
a. event source
b. ActionListener
c. interface
d. inner class

____ 48. The Java _____ keyword indicates that a Java class has agreed to provide one or more methods for an interface.
a. extends
b. interface
c. implements
d. dim

____ 49. The x, y screen coordinates contained within a _____ indicate the location where the action was performed.
a. Timer event
b. mouse event
c. display event
d. event

____ 50. One of the purposes of the Java ActionListener interface is to give programmers the ability to write classes that respond to _____ events.
a. keyboard
b. Timer
c. mouse
d. inner class

____ 51. Some Java inner classes are called _____ because they are named by the Java compiler rather than by the programmer.
a. allocated
b. absolute
c. anonymous
d. analog

____ 52. The process of designing classes and identifying their area of responsibility is called _____.
a. inheritance
b. decoupling
c. factoring
d. refactoring

____ 53. _____ refers to the set of data necessary for a class to perform its designated functions.
a. parameter list
b. state
c. encapsulation
d. method overloading

____ 54. _____ a class from its clients makes that class responsible for its own behavior.
a. method signature
b. switch statement
c. continue keyword
d. Decoupling

____ 55. Defining two or more methods that have the same name but different parameter lists is called _____.
a. private keyword
b. method overloading
c. method signature
d. encapsulation

____ 56. The combination of a method name and the number and types of the method parameters is called a _____.
a. method signature
b. private keyword
c. continue keyword
d. method overloading

____ 57. Changing the desin of a Java program by breaking large or complex classes down into two or more simple classes is called _____.
a. decoupling
b. overloading
c. factoring
d. refactoring

____ 58. The proper way for java classes to communicate and interact with each other os through _____ methods.
a. private
b. state
c. package
d. public

____ 59. _____ means designing classes that have well-defined area of responsibility, and are properly decoupled from their clients.
a. abstraction
b. encapsulation
c. polymorphism
d. factoring

____ 60. A method signature is composed of the method's name and its parameter list, but not its _____.
a. state
b. member fields
c. return type
d. constructor

____ 61. Overloading methods is a way of implementing _____ parameters in Java.
a. state
b. optional
c. abstract
d. constant

____ 62. The way in which Java classes can achieve specialization is through _____.
a. inheritance
b. factoring
c. specialization
d. code reuse

____ 63. The concept of utilizing existing code already known to work rather than duplicating that code in multiple places is referred to as _____.
a. inheritance
b. derived class
c. code reuse
d. super keyword

____ 64. Using the _____ means member variables are not visible to any other Java class including subclasses.
a. protected keyword
b. private keyword
c. inheritance
d. protected keyword

____ 65. The term _____ means "many forms," and can be applied to overloaded methods as well as derived classes.
a. polymorphism
b. code reuse
c. abstract keyword
d. method overclocking

____ 66. The _____ is used to define classes that cannot be instantiated directly.
a. abstract keyword
b. derived class
c. extends keyword
d. protected keyword

____ 67. Derived classes in Java make use of inheritance and differentiation to achieve _____.
a. abstraction
b. polymorphism
c. specialization
d. inheritance

____ 68. Defining derived classes in Java requires the use of the _____ keyword.
a. abstract
b. extends
c. public
d. private

____ 69. The Java _____ keyword is used to define member variables that are visible to the base class in which they are defined and subclasses of the base class.
a. package
b. private
c. protected
d. abstract

____ 70. A constructor method in a derived class can access any overloaded version of its base class constructor by using the _____ keyword.
a. super
b. extends
c. abstract
d. package

____ 71. The process of identifying common attributes and behaviors in two or more classes, and then moving these commonalities to a base class, is called _____.
a. polymorphizing
b. factoring
c. extending
d. specializing

____ 72. The invention of the _____ marked the introduction of third-generation computers.
a. integrated circuit
b. compiler
c. hard drive
d. transistor

____ 73. _____ is the part of a computer system that stores information.
a. hard drive
b. chip
c. random-access memory
d. central processing unit

____ 74. Windows, MacOS, and Linux are examples of common _____.
a. software
b. operating systems
c. assembly languages
d. interfaces

____ 75. A _____ is a semiconducting substance that resembles a thin wafer.
a. chip
b. central processing unit
c. integrated circuit
d. hard drive

____ 76. _____, design, and implementation are the first three steps of the software development process.
a. documentation
b. flowcharts
c. compiling
d. analysis

____ 77. The _____ is frequently recognized as the first computing device, and it has been used for some 5,000 years.
a. analytical engine
b. ENIAC
c. abacus
d. central processing unit

____ 78. Computer peripherals that allow humans to interact with the machine are called _____.
a. programming languages
b. input/output devices
c. applications
d. interfaces

____ 79. Word processors, spreadsheets, and even video games are examples of software _____.
a. hard drives
b. applications
c. processors
d. designs

____ 80. _____ allows programmers to reference individual computer instructions with symbolic names rather than binary codes.
a. operating systems
b. procedural languages
c. processors
d. assembly languages

____ 81. Programming languages that encourage code reuse and are designed around the event-driven software model are called _____.
a. procedural languages
b. object-oriented languages
c. machine languages
d. assembly languages

____ 82. A _____ is an object or a value that is passed in to the method by the calling object.
a. class
b. parameter
c. statement
d. pixel

____ 83. A Java _____ is a definition of a particular data type.
a. class
b. comment
c. library
d. keyword

____ 84. A Java _____ is part of a class definition and determines the behavior and functional capabilities of the class.
a. identifier
b. method
c. parameter
d. applet

____ 85. The set of rules that govern the proper construction of Java programs is called the language _____.
a. library
b. application
c. instantiation
d. syntax

____ 86. Java terminology and keywords that represent common objects in the real world are called _____.
a. models
b. metaphors
c. methods
d. classes

____ 87. Java _____ are defined as member variables and contain values that represent the attributes and properties of an object.
a. fields
b. methods
c. compilers
d. comments

____ 88. The process of defining a Java class that extends the capabilities of a base class, and then adds its own unique properties and capabilities is called _____.
a. association
b. composition
c. specialization
d. camel case notation

____ 89. A Java code fragment that compiles properly, but does not execute as intended, is called a program _____.
a. bug
b. field
c. method
d. null

____ 90. A Java applet is a program loaded and executed by a Web browser in response to an associated _____ file.
a. byte code
b. Java source file
c. HTML container
d. application

____ 91. The _____ of a class may be described as a contract between it and its clients.
a. mutator
b. public interface
c. constructor
d. token

____ 92. _____ refers to the idea that each class should do one thing and do it well.
a. encapsulation
b. data hiding
c. heaping
d. private implementation

____ 93. Keeping the internal state and organization of a class unseen by its clients is known as _____.
a. data hiding
b. encapsulation
c. private implementation
d. delegation

____ 94. Java programmers refer to spaces, tabs, and new lines as _____.
a. static members
b. tokens
c. white space
d. case sensitive

____ 95. A(n) _____ is a special type of method that is called automatically when a class is instantiated (created).
a. constructor
b. garbage collector
c. mutator
d. accessor

____ 96. The _____ of a Java class is the particular technique it uses to fulfill its contract with its client.
a. private implementation
b. field
c. white space
d. public interface

____ 97. The reverse side of the "encapsulation" coin is called _____, and it means that a Java class should not provide services outside the realm of its responsibility.
a. abstraction
b. delegation
c. data hiding
d. private implementation

____ 98. Java class members that may be invoked (called) by other objects are called _____.
a. fields
b. accessors
c. variables
d. methods

____ 99. Java provides _____ different kinds of intristic data types.
a. twelve
b. ten
c. eight
d. three

____ 100. The collection of predefined objects that are provided for programmers is known as the Java _____.
a. intristic data types
b. class library
c. virtual machine
d. public interface

____ 101. The range of visibility of a variable name is called its _____.
a. constant
b. scope
c. cast
d. modulus

____ 102. A Java _____ consists of any combination of constants, variables, and operators that correctly adhere to the rules of Java syntax.
a. prefix
b. postfix
c. expression
d. operator

____ 103. The + symbol in Java is used to represent the mathematical addition operation, and also the string _____.
a. modulus
b. operator
c. constant
d. concatenation

____ 104. Java identifiers whose values may change as a program runs are called _____.
a. constants
b. variables
c. literals
d. expressions

____ 105. Assigning a value to a variable when the variable is declared is called _____.
a. instantiation
b. encapsulation
c. initialization
d. casting

____ 106. A _____ occurs whenever the same variable appears on both sides of the Java = operator.
a. syntax error
b. self-assignment
c. circular reference
d. decrement operator

Java Spring 2018 Exam
Answer Section

MULTIPLE CHOICE

1. A
2. B
3. D
4. C
5. B
6. B
7. B
8. A
9. C
10. D
11. D
12. A
13. C
14. B
15. B
16. C
17. C
18. B
19. C
20. A
21. B
22. A
23. E
24. C
25. A
26. D
27. D
28. B
29. D
30. C
31. D
32. E
33. A
34. B
35. A
36. D
37. A
38. C
39. C
40. A
41. A
42. C
43. A
44. B
45. D
46. A
47. A
48. C
49. B
50. B
51. C
52. C
53. B
54. D
55. B
56. A
57. D
58. D
59. B
60. C
61. B
62. A
63. C
64. B
65. A
66. A
67. C
68. B
69. C
70. A
71. B
72. A
73. C
74. B
75. A
76. D
77. C
78. B
79. B
80. D
81. B
82. B
83. A
84. B
85. D
86. B
87. A
88. C
89. A
90. B
91. B
92. A
93. A
94. C
95. A
96. A
97. B
98. D
99. C
100. B
101. B
102. C
103. D
104. B
105. C
106. B