47. What is the range of the short type?
The range of the short type is -(2^15) to 2^15 - 1.

48. What is the range of the char type?
The range of the char type is 0 to 2^16 - 1.

49. In which package are most of the AWT events that support the event-delegation model defined?
Most of the AWT-related events of the event-delegation model are defined in the java.awt.event package. The AWTEvent class is defined in the java.awt package.

50. What is the immediate superclass of Menu?
MenuItem

51. What is the purpose of finalization?
The purpose of finalization is to give an unreachable object the opportunity to perform any cleanup processing before the object is garbage collected.

52. Which class is the immediate superclass of the MenuComponent class.
Object

53. What invokes a thread's run() method?
After a thread is started, via its start() method or that of the Thread class, the JVM invokes the thread's run() method when the thread is initially executed.

54. What is the difference between the Boolean & operator and the && operator?
If an expression involving the Boolean & operator is evaluated, both operands are evaluated. Then the & operator is applied to the operand. When an expression involving the && operator is evaluated, the first operand is evaluated. If the first operand returns a value of true then the second operand is evaluated. The && operator is then applied to the first and second operands. If the first operand evaluates to false, the evaluation of the second operand is skipped.

55. Name three subclasses of the Component class.
Box.Filler, Button, Canvas, Checkbox, Choice, Container, Label, List, Scrollbar, or TextComponent

56. What is the GregorianCalendar class?
The GregorianCalendar provides support for traditional Western calendars.

57. Which Container method is used to cause a container to be laid out and redisplayed?
validate()

58. What is the purpose of the Runtime class?
The purpose of the Runtime class is to provide access to the Java runtime system.

59. How many times may an object's finalize() method be invoked by the garbage collector?
An object's finalize() method may only be invoked once by the garbage collector.

60. What is the purpose of the finally clause of a try-catch-finally statement?
The finally clause is used to provide the capability to execute code no matter whether or not an exception is thrown or caught.

61. What is the argument type of a program's main() method?
A program's main() method takes an argument of the String[] type.

62. Which Java operator is right associative?
The = operator is right associative.

63. What is the Locale class?
The Locale class is used to tailor program output to the conventions of a particular geographic, political, or cultural region.

64. Can a double value be cast to a byte?
Yes, a double value can be cast to a byte.

65. What is the difference between a break statement and a continue statement?
A break statement results in the termination of the statement to which it applies (switch, for, do, or while). A continue statement is used to end the current loop iteration and return control to the loop statement.

66. What must a class do to implement an interface?
It must provide all of the methods in the interface and identify the interface in its implements clause.

67. What method is invoked to cause an object to begin executing as a separate thread?
The start() method of the Thread class is invoked to cause an object to begin executing as a separate thread.

68. Name two subclasses of the TextComponent class.
TextField and TextArea

69. What is the advantage of the event-delegation model over the earlier event-inheritance model?
The event-delegation model has two advantages over the event-inheritance model. First, it enables event handling to be handled by objects other than the ones that generate the events (or their containers). This allows a clean separation between a component's design and its use. The other advantage of the event-delegation model is that it performs much better in applications where many events are generated. This performance improvement is due to the fact that the event-delegation model does not have to repeatedly process unhandled events, as is the case of the event-inheritance model.

70. Which containers may have a MenuBar?
Frame

71. How are commas used in the initialization and iteration parts of a for statement?
Commas are used to separate multiple statements within the initialization and iteration parts of a for statement.

72. What is the purpose of the wait(), notify(), and notifyAll() methods?
The wait(),notify(), and notifyAll() methods are used to provide an efficient way for threads to wait for a shared resource. When a thread executes an object's wait() method, it enters the waiting state. It only enters the ready state after another thread invokes the object's notify() or notifyAll() methods.

73. What is an abstract method?
An abstract method is a method whose implementation is deferred to a subclass.

74. How are Java source code files named?
A Java source code file takes the name of a public class or interface that is defined within the file. A source code file may contain at most one public class or interface. If a public class or interface is defined within a source code file, then the source code file must take the name of the public class or interface. If no public class or interface is defined within a source code file, then the file must take on a name that is different than its classes and interfaces. Source code files use the .java extension.

75. What is the relationship between the Canvas class and the Graphics class?
A Canvas object provides access to a Graphics object via its paint() method.

76. What are the high-level thread states?
The high-level thread states are ready, running, waiting, and dead.

77. What value does read() return when it has reached the end of a file?
The read() method returns -1 when it has reached the end of a file.

78. Can a Byte object be cast to a double value?
No, an object cannot be cast to a primitive value.

79. What is the difference between a static and a non-static inner class?
A non-static inner class may have object instances that are associated with instances of the class's outer class. A static inner class does not have any object instances.

80. What is the difference between the String and StringBuffer classes?
String objects are constants. StringBuffer objects are not.

81. If a variable is declared as private, where may the variable be accessed?
A private variable may only be accessed within the class in which it is declared.

82. What is an object's lock and which object's have locks?
An object's lock is a mechanism that is used by multiple threads to obtain synchronized access to the object. A thread may execute a synchronized method of an object only after it has acquired the object's lock. All objects and classes have locks. A class's lock is acquired on the class's Class object.

83. What is the Dictionary class?
The Dictionary class provides the capability to store key-value pairs.

84. How are the elements of a BorderLayout organized?
The elements of a BorderLayout are organized at the borders (North, South, East, and West) and the center of a container.

85. What is the % operator?
It is referred to as the modulo or remainder operator. It returns the remainder of dividing the first operand by the second operand.

86. When can an object reference be cast to an interface reference?
An object reference be cast to an interface reference when the object implements the referenced interface.

87. What is the difference between a Window and a Frame?
The Frame class extends Window to define a main application window that can have a menu bar.

88. Which class is extended by all other classes?
The Object class is extended by all other classes.

89. Can an object be garbage collected while it is still reachable?
A reachable object cannot be garbage collected. Only unreachable objects may be garbage collected..

90. Is the ternary operator written x : y ? z or x ? y : z ?
It is written x ? y : z.

91. What is the difference between the Font and FontMetrics classes?
The FontMetrics class is used to define implementation-specific properties, such as ascent and descent, of a Font object.

92. How is rounding performed under integer division?
The fractional part of the result is truncated. This is known as rounding toward zero.

93. What happens when a thread cannot acquire a lock on an object?