Core java MCQ Questions

1. What is Java known for?
    - A) Speed
    - B) Platform-dependency
    - C) Security
    - D) Portability
    - **Answer: D**
    -
2. Which component of Java is responsible for converting bytecode into machine-specific code?
    - A) JVM
    - B) JRE
    - C) JDK
    - D) JAR
    - **Answer: A**
3. What is the correct order of compiling and running a Java program?
    - A) Write, Compile, Run
    - B) Compile, Write, Run
    - C) Write, Run, Compile
    - D) Compile, Run, Write
    - **Answer: A**
4. Which data type is used to store whole numbers in Java?
    - A) int
    - B) float
    - C) double
    - D) char
    - **Answer: A**

5. Which of the following is NOT a Java token?
    - A) class
    - B) printf
    - C) void
    - D) private
    - **Answer: B**
    -
6. What is the result of `10 % 3` in Java?
    - A) 0

- B) 1
- C) 2
- D) 3
- **Answer: B**
-

7. Which statement is used to exit from a loop in Java?

    - A) break
    - B) exit
    - C) stop
    - D) continue
    - **Answer: A**
    -

8. How do you declare a 2D array in Java?

    - A) int[ ][ ] array2D;
    - B) int[ ] array2D;
    - C) int array2D[ ][ ];
    - D) array2D int[ ][ ];
    - **Answer: A**

9. Which OOP principle is achieved by bundling data and methods that operate on the data into a single unit?

    - A) Encapsulation
    - B) Inheritance
    - C) Abstraction
    - D) Polymorphism
    - **Answer: A**

10. Which keyword is used to implement inheritance in Java?

    - A) extends
    - B) implements
    - C) inherits
    - D) uses
    - **Answer: A**

11. What is the difference between method overloading and method overriding?

    - A) Overloading is dynamic, while overriding is static.
    - B) Overloading occurs in the same class, while overriding occurs in different classes.
    - C) Overloading changes the method name, while overriding keeps the same method name.
    - D) Overloading is based on different parameters, while overriding is based on the same parameters.

- **Answer: D**

12. Which keyword is used to access the static method of a class from another class?

- A) this
- B) static
- C) super
- D) classname
- **Answer: D**

13. What is a static variable in Java?

- A) It is a variable that cannot be changed after initialization.
- B) It is a variable that belongs to the instance of a class.
- C) It is a variable that is shared among all instances of the class.
- D) It is a variable declared inside a static method.
- **Answer: C**

14. What is the difference between primitive data types and reference data types in Java?

- A) Primitive data types are immutable, while reference data types are mutable.
- B) Primitive data types are stored on the stack, while reference data types are stored on the heap.
- C) Primitive data types can hold more complex data structures than reference data types.
- D) Primitive data types are used for declaring variables, while reference data types are used for declaring methods.
- **Answer: B**

15. When you pass an object as an argument to a method in Java, are you passing it by value or by reference?

- A) By value
- B) By reference
- C) It depends on the type of the object.
- D) Java does not support passing objects to methods.
- **Answer: A**

16. How many times is a constructor called when you create a new object in Java?

- A) Once
- B) Twice
- C) Depends on the number of instance variables
- D) Depends on the number of methods
- **Answer: A**

17. In Java, which keyword is used to refer to the superclass within a subclass method?

- A) base
- B) parent
- C) super
- D) extends
- **Answer: C**
-

18. What is the advantage of using inheritance in Java?

- A) It allows code reuse and method overriding.
- B) It ensures that a class cannot be inherited by another class.
- C) It allows for private member access across classes.
- D) It reduces the size of compiled code.
- **Answer: A**

19. What is the difference between compile-time polymorphism and runtime polymorphism in Java?

- A) Compile-time polymorphism is achieved using method overriding, while runtime polymorphism is achieved using method overloading.
- B) Compile-time polymorphism allows for method resolution at runtime, while runtime polymorphism resolves methods at compile time.
- C) Compile-time polymorphism is achieved using inheritance, while runtime polymorphism is achieved using interfaces.
- D) Compile-time polymorphism allows for method overloading, while runtime polymorphism allows for method overriding.
- **Answer: D**

20. Which keyword is used to prevent method overriding in Java?

- A) private
- B) protected
- C) final
- D) static
- **Answer: C**

21. What is upcasting in Java?

- A) Converting a subclass reference to a superclass reference.
- B) Converting a superclass reference to a subclass reference.
- C) Calling a superclass method from a subclass.
- D) Implementing multiple interfaces in a single class.
- **Answer: A**

22. Which keyword is used to declare an abstract class in Java?

- A) abstract

- B) class
- C) interface
- D) extends
- **Answer: A**

23. Can you instantiate an object of an abstract class in Java?

- A) Yes
- B) No
- C) Only if the abstract class has at least one non-abstract method.
- D) Only if the abstract class implements an interface.
- **Answer: B**

24. How do you achieve multiple inheritance in Java?

- A) Using interfaces
- B) Using abstract classes
- C) By extending multiple classes
- D) Java does not support multiple inheritance
- **Answer: A**

25. Which keyword is used to define a constant in Java?

- A) const
- B) final
- C) static
- D) constant
- **Answer: B**

26. What is a functional interface in Java?

- A) An interface with only one abstract method
- B) An interface that extends another interface
- C) An interface that can be instantiated
- D) An interface that contains only static methods
- **Answer: A**

27. What is the purpose of lambda expressions in Java?

- A) To create anonymous classes
- B) To define functional interfaces
- C) To replace loops in code
- D) To implement multiple inheritance
- **Answer: B**

28. Which type of inner class does not have access to instance variables of the outer class?

- A) Static inner class
- B) Method local inner class
- C) Anonymous inner class

- D) Regular inner class
- **Answer: A**

29. Which access modifier provides the widest accessibility in Java?

- A) public
- B) protected
- C) private
- D) default (no modifier)
- **Answer: A**
-

30. What is the default access modifier for variables and methods in Java if no modifier is specified?

- A) public
- B) protected
- C) private
- D) default (package-private)
- **Answer: D**

31. Can a constructor call another constructor from the same class in Java?

- A) Yes, using this()
- B) Yes, using super()
- C) No, constructors cannot call each other
- D) Only if the constructors have different parameters
- **Answer: A**

32. How do you access a protected member of a class from outside its package in Java?

- A) By using a subclass
- B) By using the class name
- C) By using the 'protected' keyword
- D) It is not possible to access protected members from outside the package
- **Answer: A**

33. When does an object become eligible for garbage collection in Java?

- A) When it is no longer reachable or accessible
- B) When it is set to null
- C) When the finalize() method is called
- D) When its reference count becomes zero
- **Answer: A**

34. What is the purpose of the finalize() method in Java?

- A) To release system resources before an object is garbage collected
- B) To force garbage collection on an object
- C) To define a method that is called automatically when an object is created

- D) To initialize instance variables before an object is used
- **Answer: A**

35. How can you explicitly request the JVM to run garbage collection in Java?

- A) By calling System.gc()
- B) By using the finalize() method
- C) By setting all references to null
- D) Garbage collection cannot be explicitly requested
- **Answer: A**

36. Which of the following is a wrapper class in Java?

- A) Integer
- B) int
- C) float
- D) String
- **Answer: A**

37. What is autoboxing in Java?

- A) Converting a primitive type to its corresponding wrapper class
- B) Converting a wrapper class to its corresponding primitive type
- C) Converting an integer to a string
- D) Converting a string to an integer
- **Answer: A**

38. How do you convert a string to all uppercase in Java?

- A) str.toUpperCase()
- B) str.toUpper()
- C) str.uppercase()
- D) str.caseUpper()
- **Answer: A**

39. Which class in Java is used to create mutable sequences of characters?

- A) String
- B) StringBuffer
- C) StringBuilder
- D) StringBuilderBuffer
- **Answer: B**

40. Which keyword is used to handle exceptions in Java?

- A) try
- B) catch
- C) throw
- D) finally

- **Answer: A**

41. What is the difference between checked and unchecked exceptions in Java?

- A) Checked exceptions are checked at compile time, while unchecked exceptions are checked at runtime.
- B) Checked exceptions must be caught or declared, while unchecked exceptions do not need to be caught or declared.
- C) Checked exceptions are caused by logical errors, while unchecked exceptions are caused by physical errors.
- D) Checked exceptions can be ignored, while unchecked exceptions cannot be ignored.
- **Answer: B**

42. What does the `finally` block in Java exception handling do?

- A) It is used to handle exceptions that are not caught by `try` or `catch` blocks.
- B) It is always executed whether an exception is thrown or not.
- C) It is used to define a default exception handler.
- D) It is used to throw a custom exception.
- **Answer: B**

43. Which method is used to explicitly throw an exception in Java?

- A) throw
- B) throws
- C) catch
- D) finalize
- **Answer: A**

44. Which interface in Java is used for serialization and deserialization?

- A) Serializable
- B) Cloneable
- C) Externalizable
- D) Streamable
- **Answer: A**

45. What is the difference between shallow copy and deep copy in Java?

- A) Shallow copy copies only references, while deep copy copies the actual objects.
- B) Shallow copy is faster than deep copy.
- C) Shallow copy is used for arrays, while deep copy is used for objects.
- D) There is no difference; shallow copy and deep copy are synonymous.
- **Answer: A**

46. Which package in Java provides support for non-blocking I/O?

- A) java.io
- B) java.nio
- C) java.net

- D) java.util
- **Answer: B**

47. Which method in the Object class is used to compare objects for equality?

- A) equals()
- B) compareTo()
- C) compare()
- D) equalsIgnoreCase()
- **Answer: A**

48. How do you convert a Date object to a String in a specific format using SimpleDateFormat?

- A) dateFormat.format(date)
- B) date.format(dateFormat)
- C) date.toFormat(dateFormat)
- D) dateFormat.parse(date)
- **Answer: A**

49. Which class in Java is used to represent date and time?

- A) Date
- B) DateTime
- C) Calendar
- D) LocalDate
- **Answer: A**

50. What does the hashCode() method in the Object class return?

- A) A unique identifier for an object
- B) The memory address of the object
- C) A value based on the contents of the object
- D) An integer representation of the object
- **Answer: A**

51. What is the root interface in the Java collection framework hierarchy?

- A) Collection
- B) List
- C) Set
- D) Map
- **Answer: A**

52. Which collection in Java does not allow duplicate elements?

- A) List
- B) Set
- C) Queue
- D) Map

- **Answer: B**

53. How do you iterate through elements in an ArrayList in Java?

- A) Using for-each loop
- B) Using for loop
- C) Using while loop
- D) All of the above
- **Answer: D**

54. What is the difference between ArrayList and LinkedList in Java?

- A) ArrayList is faster than LinkedList for traversal, while LinkedList is faster for insertion and deletion.
- B) LinkedList is faster than ArrayList for traversal, while ArrayList is faster for insertion and deletion.
- C) ArrayList uses a doubly-linked list, while LinkedList uses a dynamic array.
- D) ArrayList allows random access, while LinkedList does not.
- **Answer: A**

55. Create a method in Java to calculate the number of days between two given dates using LocalDate class.

- A) int daysBetween(LocalDate startDate, LocalDate endDate) { ... }
- B) long daysBetween(Date startDate, Date endDate) { ... }
- C) int daysBetween(Date startDate, Date endDate) { ... }
- D) long daysBetween(LocalDate startDate, LocalDate endDate) { ... }
- **Answer: A**
-

56. How do you sort elements in a List in Java using the Collections class?

- A) Collections.sort(list)
- B) list.sort()
- C) list.sort(Collections)
- D) sort(list)
- **Answer: A**

57. Which interface in Java provides a total ordering on its elements?

- A) Comparable
- B) Comparator
- C) Collection
- D) List
- **Answer: A**

58. What is the difference between Comparable and Comparator interfaces in Java?

- A) Comparable is used for natural ordering, while Comparator is used for custom ordering.

- B) Comparator is used for natural ordering, while Comparable is used for custom ordering.
- C) Comparable is used for lists, while Comparator is used for sets.
- D) There is no difference between Comparable and Comparator.
- **Answer: A**

59. Which collection in Java does not allow duplicate keys?

- A) HashSet
- B) LinkedHashMap
- C) TreeMap
- D) HashMap
- **Answer: C**

60. How do you iterate through elements in a Set in Java?

- A) Using for-each loop
- B) Using Iterator
- C) Using while loop
- D) All of the above
- **Answer: D**

61. Which collection in Java maintains the order of elements in which they are inserted?

- A) HashSet
- B) HashMap
- C) LinkedHashSet
- D) TreeMap
- **Answer: C**

62. How do you ensure uniqueness of objects in a HashSet in Java?

- A) By overriding the equals() and hashCode() methods in the object class.
- B) By using the add() method of HashSet.
- C) By using the contains() method of HashSet.
- D) By using the size() method of HashSet.
- **Answer: A**
-

63. What is the wildcard '?' used for in Java generics?

- A) To create a generic class
- B) To specify an unknown type
- C) To extend a superclass
- D) To specify multiple types
- **Answer: B**

64. Which interface is used to create a thread in Java?

- A) Runnable
- B) Thread
- C) Callable
- D) Executor
- **Answer: A**

65. How do you start a thread in Java?

- A) Call the start() method on the Thread object.
- B) Call the run() method on the Thread object.
- C) Call the wait() method on the Thread object.
- D) Call the notify() method on the Thread object.
- **Answer: A**

66. What is the purpose of the sleep() method in Java threads?

- A) To put the current thread to sleep for a specified amount of time.
- B) To terminate the current thread.
- C) To wake up all threads waiting on the current object.
- D) To synchronize threads for atomic operations.
- **Answer: A**

67. How do you set the priority of a thread in Java?

- A) Using the setPriority() method
- B) Using the priority field
- C) By extending the Thread class
- D) By implementing the Runnable interface
- **Answer: A**

68. Create multiple threads in Java using the Thread class and assign different tasks to each thread.

- A) Create a new class that extends Thread and override the run() method.
- B) Implement the Runnable interface and pass it to the Thread constructor.
- C) Use the Executor framework to create threads.
- D) Use the Timer class to create threads.
- **Answer: A**

69. What is synchronization in Java?

- A) It ensures that only one thread can access a resource at a time.
- B) It speeds up the execution of threads.
- C) It allows multiple threads to run concurrently.
- D) It prevents deadlock situations.
- **Answer: A**

70. What is a deadlock in Java?

- A) It occurs when two threads access the same resource simultaneously.
- B) It occurs when a thread is waiting indefinitely for another thread to release a resource.
- C) It occurs when a thread terminates unexpectedly.
- D) It occurs when multiple threads are synchronized.
- **Answer: B**

71. Which methods are used for inter-thread communication in Java?

- A) wait(), notify(), notifyAll()
- B) sleep(), join(), yield()
- C) start(), stop(), resume()
- D) run(), exit(), continue()
- **Answer: A**

72. How do you prevent deadlock in Java?

- A) By using synchronized blocks
- B) By avoiding circular dependencies
- C) By using wait(), notify(), and notifyAll() methods properly
- D) By increasing thread priority
- **Answer: B**

73. Create a Java program to demonstrate a deadlock situation.

- A) Create two synchronized methods and call them from two different threads.
- B) Create two threads and access a shared resource without synchronization.
- C) Use sleep() and wait() methods together in a single thread.
- D) Use notify() method without wait() method in a synchronized block.
- **Answer: A**

74. How do you share thread-local data between multiple threads in Java?

- A) By using static variables
- B) By passing data through method parameters
- C) By using thread-local variables
- D) By using global variables
- **Answer: C**

75. What is the purpose of generics in Java?

- A) To improve code performance
- B) To reduce memory usage
- C) To provide type safety at compile-time
- D) To allow dynamic class loading
- **Answer: C**

76. How do you define a generic method in Java?

- A) public <T> void methodName() { ... }
- B) public void methodName<T>() { ... }
- C) public void methodName() <T> { ... }
- D) public void <T> methodName() { ... }
- **Answer: A**

77. What is the purpose of wildcards in Java generics?

- A) To define unknown types
- B) To define multiple types
- C) To define generic classes
- D) To define anonymous classes
- **Answer: A**

78. How do you invoke private methods of another class using reflection in Java?

- A) Set the accessibility of the method to true using setAccessible(true) method.
- B) Call the invokePrivateMethod() method of the Reflection class.
- C) Use the private keyword in the method definition.
- D) There is no way to invoke private methods using reflection.
- **Answer: A**

79. Create multiple threads in Java using anonymous inner classes.

- A) Extend the Thread class and override the run() method.
- B) Implement the Runnable interface using anonymous inner classes.
- C) Use the Callable interface and call the call() method.
- D) Use the Executor framework to create threads.
- **Answer: B**

80. Create multiple threads in Java using lambda expressions.

- A) Extend the Thread class and override the run() method.
- B) Implement the Runnable interface using lambda expressions.
- C) Use the Callable interface and call the call() method.
- D) Use the Executor framework to create threads.
- **Answer: B**

81. Which keyword is used to allocate memory space for an object in Java?

- A) new
- B) malloc
- C) alloc
- D) allocate
- **Answer: A**

82. What is the output of the following Java code?

```
java
```

```
class Base {
    void show() {
        System.out.println("Base::show() called");
    }
}

class Derived extends Base {
    void show() {
        System.out.println("Derived::show() called");
    }
}

public class Main {
    public static void main(String[] args) {
        Base b = new Derived();
        b.show();
    }
}
```

- A) Base::show() called
- B) Derived::show() called
- C) Compilation error
- D) Runtime error
- **Answer: B**

83. Which of the following is true about Java?

- A) Java is platform dependent.
- B) Java supports multiple inheritance.
- C) Java uses compiler and interpreter both.
- D) Java programs cannot be run on Windows.
- **Answer: C**

84. What will happen if you attempt to compile and run the following Java code?

```
class A {
    void show() {
        System.out.println("A::show() called");
    }
}

class B extends A {
    void show() {
        System.out.println("B::show() called");
    }
}

public class Main {
    public static void main(String[] args) {
        A a = new B();
        B b = (B) a;
        b.show();
    }
}
```

- A) Compilation error
- B) B::show() called
- C) A::show() called

- D) Runtime error
- **Answer: B**

85. Which method of the Object class is called to get a textual representation of an object?

- A) print()
- B) toString()
- C) getText()
- D) display()
- **Answer: B**

86. What will be the output of the following Java code?

```
java

public class Main {
    public static void main(String[] args) {
        String str1 = "Java";
        String str2 = "Java";
        String str3 = new String("Java");

        System.out.println(str1 == str2);
        System.out.println(str1.equals(str2));
        System.out.println(str1 == str3);
        System.out.println(str1.equals(str3));
    }
}
```

- A) true, true, true, true
- B) true, true, false, true
- C) true, false, true, false
- D) false, false, false, false
- **Answer: A**

87. Which of the following is true about the String class in Java?

- A) Strings in Java are mutable.
- B) Strings in Java can be created using new keyword only.
- C) Strings in Java are implemented as character arrays.
- D) Strings in Java can be compared using == operator for content comparison.
- **Answer: C**

88. What will be the output of the following Java code?

```
public class Main {
    public static void main(String[] args) {
        int x = 5;
        int y = 2;
        System.out.println(x / y);
        System.out.println((double) x / y);
    }
}
```

- A) 2, 2.5
- B) 2, 2

- C) 2, 2.0
- D) 2.5, 2.5
- **Answer: A**

89. What is the result of the expression 10 & 6 in Java?

- A) 0
- B) 1
- C) 2
- D) 4
- **Answer: A**

90. Which keyword is used to explicitly refer to the members of the current class in Java?

- A) this
- B) super
- C) class
- D) new
- **Answer: A**

91. What will be the output of the following Java code?

```
public class Main {
    public static void main(String[] args) {
        int[] arr = {1, 2, 3, 4, 5};
        for (int i = 0; i < arr.length; i++) {
            System.out.print(arr[i] + " ");
        }
    }
}
```

- A) 1 2 3 4 5
- B) 5 4 3 2 1
- C) 1 3 5
- D) 5 3 1
- **Answer: A**
-

92. What is the default value of a boolean variable in Java?

- A) true
- B) false
- C) 0
- D) null
- **Answer: B**
-

93. Which of the following is true about the break statement in Java?

- A) It is used to skip the current iteration of a loop.
- B) It is used to terminate the loop.
- C) It is used to transfer control to another part of the program.

- D) It is used to define labels in a program.
- **Answer: B**
-

94. What is the output of the following Java code?

```
public class Main {
    public static void main(String[] args) {
        int i = 1;
        while (i <= 5) {
            System.out.print(i + " ");
            i++;
        }
    }
}
```

- A) 1 2 3 4 5
- B) 5 4 3 2 1
- C) 1 2 3 4
- D) 5 4 3 2
- **Answer: A**
-

95. What will be the output of the following Java code?

```
public class Main {
    public static void main(String[] args) {
        for (int i = 0; i < 5; i++) {
            if (i == 3)
                continue;
            System.out.print(i + " ");
        }
    }
}
```

- A) 0 1 2 4
- B) 1 2 4
- C) 0 1 2 3 4
- D) 0 1 2 3
- **Answer: A**
-

96. What will be the output of the following Java code?

```
public class Main {
    public static void main(String[] args) {
        int i = 10;
        do {
            System.out.print(i + " ");
            i--;
        } while (i > 5);
    }
}
```

- A) 10 9 8 7 6
- B) 10 9 8 7 6 5
- C) 6 7 8 9 10
- D) 5 6 7 8 9 10
- **Answer: A**
-

97. Which keyword is used to exit from a loop in Java?

- A) exit
- B) end
- C) break
- D) return
- **Answer: C**
-

98. What will be the output of the following Java code?

```
public class Main {
    public static void main(String[] args) {
        int[] arr = new int[5];
        System.out.println(arr[0]);
    }
}
```

- A) 0
- B) 1
- C) 5
- D) null
- **Answer: A**
-

99. Which method is used to find the length of an array in Java?

- A) length
- B) size
- C) length()
- D) size()
- **Answer: A**

101. What is the purpose of the `transient` keyword in Java?
- A) It is used to indicate that a variable should not be serialized.
- B) It is used to indicate that a variable is thread-safe.
- C) It is used to indicate that a variable should not be modified.
- D) It is used to indicate that a variable is immutable.
- **Answer: A**

102. Which design pattern is used to ensure that a class has only one instance and provides a global point of access to it?
- A) Singleton
- B) Factory
- C) Observer
- D) Proxy
- **Answer: A**

103. In Java, which annotation is used to indicate that a method can be overridden in subclasses?
- A) @Override
- B) @Overload
- C) @Overrideable
- D) @Overridable
- **Answer: A**

104. What is the purpose of the `volatile` keyword in Java?
- A) It is used to indicate that a variable should be initialized with a default value.
- B) It is used to indicate that a variable's value may be changed by multiple threads.
- C) It is used to indicate that a variable should not be modified.
- D) It is used to indicate that a variable is immutable.
- **Answer: B**

105. Which of the following is true about anonymous inner classes in Java?
- A) They have a named constructor.
- B) They can extend abstract classes but not concrete classes.
- C) They cannot access local variables of the enclosing scope if they are not final or effectively final.
- D) They can be instantiated using the `new` keyword.
- **Answer: C**

106. What is the difference between `ArrayList` and `LinkedList` in Java regarding memory usage and performance?
- A) `ArrayList` uses less memory and has faster insertion and deletion operations.
- B) `LinkedList` uses less memory and has faster random access operations.
- C) `ArrayList` uses more memory and has faster insertion and deletion operations.
- D) `LinkedList` uses more memory and has faster random access operations.
- **Answer: C**

107. In Java, which of the following interfaces is used to define a functional interface that has a single abstract method?
- A) `Function`
- B) `Runnable`
- C) `Callable`
- D) `FunctionalInterface`
- **Answer: D**

108. What is the output of the following Java code?

```
public class Main {
    public static void main(String[] args) {
        String str = "Java";
        str.concat(" is fun");
```

```
        System.out.println(str);
    }
}
```

- A) Java
- B) Java is fun
- C) Compilation error
- D) Runtime error
- **Answer: A**

109. What is the output of the following Java code?

```
public class Main {
    public static void main(String[] args) {
        String str = "Java";
        str = str.concat(" is fun");
        System.out.println(str);
    }
}
```

- A) Java
- B) Java is fun
- C) Compilation error
- D) Runtime error
- **Answer: B**

110. Which method of the `Object` class is called when you use `==` to compare two objects in Java?
- A) `equals()`
- B) `compareTo()`
- C) `hashCode()`
- D) `finalize()`
- **Answer: A**

111. What is the purpose of the `finalize()` method in the `Object` class in Java?
- A) It is used to mark an object for garbage collection.
- B) It is used to release system resources before an object is destroyed.
- C) It is used to compare two objects for equality.
- D) It is used to synchronize threads for atomic operations.
- **Answer: B**

112. What is the purpose of the `compareTo()` method in Java?
- A) It is used to compare two objects for equality.
- B) It is used to compare the memory addresses of two objects.
- C) It is used to compare the contents of two objects.
- D) It is used to compare two objects for ordering.
- **Answer: D**

113. In Java, which method is used to perform deep copy of objects?
- A) `clone()`
- B) `copy()`
- C) `copyOf()`

- D) `deepCopy()`
- **Answer: A**

114. What is the difference between `==` and `.equals()` method in Java?
- A) `==` compares the memory addresses of objects, while `.equals()` compares their contents.
- B) `==` compares the contents of objects, while `.equals()` compares their memory addresses.
- C) Both `==` and `.equals()` are used to compare the memory addresses of objects.
- D) Both `==` and `.equals()` are used to compare the contents of objects.
- **Answer: A**

115. In Java, what is the purpose of the `super` keyword?
- A) It is used to access the superclass's fields and methods.
- B) It is used to create an instance of the superclass.
- C) It is used to call the superclass's constructor.
- D) It is used to define anonymous inner classes.
- **Answer: A**

116. What is the output of the following Java code?

```
public class Main {
    public static void main(String[] args) {
        int x = 5;
        int y = 2;
        System.out.println(x % y);
    }
}
```

- A) 2
- B) 2.5
- C) 1
- D) 0
- **Answer: C**

117. Which method is used to read characters from the console in Java?
- A) `Console.read()`
- B) `System.in.read()`
- C) `Scanner.read()`
- D) `BufferedReader.readLine()`
- **Answer: D**

118. What is the output of the following Java code?

```
public class Main {
    public static void main(String[] args) {
        int x = 10;
        if (x > 5)
            System.out.println("x is greater than 5");
        else if (x > 7)
            System.out.println("x is greater than 7");
        else
            System.out.println("x is less than or equal to 5");
    }
```

```
}
```

- A) x is greater than 5
- B) x is greater than 7
- C) x is less than or equal to 5
- D) Compilation error
- **Answer: A**

119. In Java, which of the following is used to define a class that cannot be instantiated and may contain abstract methods?
- A) Abstract class
- B) Interface
- C) Final class
- D) Static class
- **Answer: C**

120. What is the output of the following Java code?

```java
public class Main {
    public static void main(String[] args) {
        String str1 = "Hello";
        String str2 = "Hello";
        String str3 = new String("Hello");

        System.out.println(str1 == str2);
        System.out.println(str1.equals(str2));
        System.out.println(str1 == str3);
        System.out.println(str1.equals(str3));
    }
}
```

- A) true, true, true, true
- B) true, true, false, true
- C) true, false, true, false
- D) false, false, false, false
- **Answer: A**