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| 51 | Online Crime Reporting Portal Project | React+Springboot+MySql |
| 52 | Online Child Adoption Portal Project | React+Springboot+MySql |
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| 8 | Hospital management system Project | https://youtu.be/IynIouBZvY4?si=CXzQs3BsRkjKhZCw |
| 9 | Municipal Corporation system Project | https://youtu.be/cVMx9NVyI4I?si=qX0oQt-GT-LR_5jF |
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| 12 | Gym Management system Project | https://youtu.be/J8_7Zrkg7ag?si=LcxV51ynfUB7OptX |
| 13 | Online Driving License system Project | https://youtu.be/3yRzsMs8TLE?si=JRI_z4FDx4Gmt7fn |
| 14 | Online Flight Booking system Project | https://youtu.be/m755rOwdk8U?si=HURvAY2VnizIyJlh |
| 15 | Employee management system project | https://youtu.be/lD1iE3W_GRw?si=Y_jv1xV_BljhrD0H |
| 16 | Online student school or college portal | https://youtu.be/4A25aEKfei0?si=RoVgZtxMk9TPdQvD |
| 17 | Online movie booking system project | https://youtu.be/Lfjv_U74SC4?si=fiDvrhhrjb4KSlSm |
| 18 | Online Pizza Delivery system project | https://youtu.be/Tp3izreZ458?si=8eWAOzA8SVdNwlyM |
| 19 | Online Crime Reporting system Project | https://youtu.be/0UlzReSk9tQ?si=6vN0e70TVY1GOwPO |
| 20 | Online Children Adoption Project | https://youtu.be/3T5HC2HKyT4?si=bntP78niYH802I7N |

# 1. Who developed the Java programming language?

a) Microsoft

b) Oracle

c) Sun Microsystems

d) Google

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**Answer:**

c) Sun Microsystems

**Explanation:**

Java was developed by Sun Microsystems. Later, Oracle acquired Sun Microsystems in 2010.

# 2. In which year was the first version of Java released?

a) 1991

b) 1995

c) 1998

d) 2000

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# 3. What was the original name for Java?

a) C++++

b) Oak

c) Pine

d) Maple

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## 4. What does JVM stand for?

a) Java Version Machine

b) Java Virtual Mechanism

c) Java Verified Module

d) Java Virtual Machine

Click to View Answer and Explanation

## 5. Which of the following is responsible for converting bytecode into machine code?

a) JDK

b) JRE

c) JVM

d) Java Compiler

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## 6. What does JDK include?

a) Only a compiler

b) Only a runtime environment

c) Both a compiler and a runtime environment

d) None of the above

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## 7. Which of the following is NOT a part of the JRE?

a) Bytecode verifier

b) Classloader

c) Java Compiler

d) Java API classes

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## 8. What is the primary function of JRE?

a) Compilation

b) Debugging

c) Execution

d) Development

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## 9. Can you run a Java program without JRE?

a) Yes

b) No

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## 10. Is JVM platform-independent?

a) Yes

b) No

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## 11. Which operator is used to perform bitwise "AND" operation?

a) &&

b) &

c) |

d) ||

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## 12. What does the == operator compare in Java objects?

a) Values

b) References

c) Hash codes

d) Fields

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## 13. Which operator is used for logical "AND" operation?

a) &&

b) &

c) ||

d) |

Click to View Answer and Explanation



## 14. Which of the following is a unary operator?

a) +

b) -

c) !

d) All of the above

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## 15. Which operator has the highest precedence?

a) +

b) *

c) ()

d) &&

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## 16. What is the output of the expression true || false?

a) true

b) false

c) null

d) 0

Click to View Answer and Explanation



## 17. Which of the following is not a primitive data type in Java?

a) byte

b) String

c) double

d) short

Click to View Answer and Explanation

## 18. What is the default value of the int data type?

a) 0

b) 1

c) null

d) Undefined

Click to View Answer and Explanation

## 19. Which of the following data types can store a floating-point number?

a) int

b) byte

c) double

d) char

Click to View Answer and Explanation

## 20. Which data type can store a single character?

a) String

b) byte

c) char

d) int

Click to View Answer and Explanation



## 21. How many bits does the long data type use?

a) 8

b) 16

c) 32

d) 64

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## 22. What's the main difference between int and Integer in Java?

a) No difference

b) Integer can store larger values than int

c) int is a primitive data type, while Integer is a class

d) int can be null, while Integer cannot

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## 23. Which loop construct in Java is best suited when the number of iterations is known?

a) for loop

b) while loop

c) do-while loop

d) break statement

Click to View Answer and Explanation



## 24. What is the purpose of the continue statement in a loop?

a) To exit the loop immediately

b) To skip the current iteration and move to the next iteration

c) To terminate the program

d) To execute a specific block of code

Click to View Answer and Explanation

## 25. Which loop construct in Java is best suited when the number of iterations is unknown?

a) for loop

b) while loop

c) do-while loop

d) none

Click to View Answer and Explanation

## 26. What is the key difference between a while loop and a do-while loop in Java?

a) The syntax used to define the loop

b) The number of iterations performed

c) The condition check timing

d) The ability to use the break statement

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## 27. Which loop construct guarantees that the loop body is executed at least once?

a) for loop

b) while loop

c) do-while loop

d) continue statement



Click to View Answer and Explanation

## 28. What is an infinite loop?

a) A loop that executes only once

b) A loop that never terminates naturally

c) A loop that contains an unreachable code block

d) A loop that uses the continue statement

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## 29. Which statement is used to exit a loop prematurely?

a) return statement

b) continue statement

c) break statement

d) exit statement

Click to View Answer and Explanation

## 30. Which loop construct is best suited for iterating over an array or a collection?

a) for loop

b) while loop

c) do-while loop

d) continue statement

Click to View Answer and Explanation



## 31. How do you declare an array in Java?

a) int arrayName;

b) int[] arrayName;

c) int arrayName[];

d) Both b and c

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## 32. Which method is used to get the length of an array in Java?

a) length()

b) size()

c) getLength()

d) length

Click to View Answer and Explanation

## 33. How do you initialize an array in Java?

a) int[] arr = (1,2,3,4,5);

b) int arr = {1,2,3,4,5};

c) int[] arr = new int[]{1,2,3,4,5};

d) int arr = new int(5);

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## 34. What happens when you try to access an array element with an index that is out of bounds?

a) It returns -1

b) It returns a null value

c) It throws an exception

d) It initializes a new array

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## 35. How can you check if two arrays are equal in Java?

a) Use the == operator

b) Use the .equals() method

c) Use Arrays.equals() method

d) Compare each element one by one

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## 36. How do you access the fourth element of an array named numbers?

a) numbers[4];

b) numbers(3);

c) numbers[3];

d) numbers.get(3);

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## 37. Which of the following operators is used for concatenation of two strings?

a) +

b) *

c) &

d) +=

Click to View Answer and Explanation



## 38. Which of the following creates a mutable string?

a) String

b) StringBuilder

c) StringChar

d) StringMutable

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## 39. In Java, strings are:

a) Primitive data types

b) Immutable objects

c) Mutable objects

d) Arrays of characters

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## 40. How do you find the length of a string named 'example'?

a) example.size()

b) example.length()

c) example.getLength()

d) example.len()

Click to View Answer and Explanation

## 41. What is the result of the expression "Java" + "Programming"?

a) JavaProgramming

b) Java Programming

c) Java-Programming

d) JavaProgramming-



Click to View Answer and Explanation

## 42. Which method is used to compare two strings for equality?

a) ==

b) equals()

c) compare()

d) isEqual()

Click to View Answer and Explanation

## 43. Which class can create a string that is thread-safe?

a) String

b) StringBuffer

c) StringBuilder

d) StringSafe

Click to View Answer and Explanation

## 44. What is the root class for all Java classes?

a) Object

b) Class

c) Superclass

d) Root

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## 45. What is polymorphism?

a) Multiple forms

b) Single form

c) No form

d) Static form

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## 46. What is encapsulation in Java?

a) The process of combining data and methods into a single unit

b) The process of hiding data and methods within a class

c) The process of creating multiple instances of a class

d) The process of reusing code from existing classes

Click to View Answer and Explanation

## 47. What is inheritance in Java?

a) The process of creating multiple instances of a class

b) The process of hiding data and methods within a class

c) The process of reusing code from existing classes

d) The process of combining data and methods into a single unit

Click to View Answer and Explanation

## 48. What is polymorphism in Java?

a) The ability of a class to inherit properties and behaviors from another class

b) The process of hiding data and methods within a class

c) The process of creating multiple instances of a class

d) The ability of an object to take on many forms

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## 49. What are abstract classes in Java?

a) Classes that cannot be instantiated

b) Classes that can be used as blueprints for creating objects

c) Classes that only contain abstract methods

d) All of the above

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## 50. What is the purpose of the "super" keyword in Java?

a) To refer to the current object

b) To invoke the superclass constructor or methods

c) To create multiple instances of a class

d) To hide data and methods within a class

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## 51. What is the purpose of the "this" keyword in Java?

a) To refer to the superclass

b) To create multiple instances of a class

c) To hide data and methods within a class

d) To refer to the current object

Click to View Answer and Explanation

## 52. What is the purpose of the "final" keyword in Java?

a) To prevent the inheritance of a class

b) To prevent overriding of a method

c) To prevent modification of a variable's value

d) All of the above

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## 53. What is an interface in Java?

a) A class

b) A data type

c) A blueprint for a class

d) A data structure

Click to View Answer and Explanation

## 54. Which keyword is used to implement an interface?

a) extends

b) new

c) interface

d) implements

Click to View Answer and Explanation

## 55. Can an interface extend another interface in Java?

a) No

b) Yes

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## 56. Can an interface have a constructor?

a) Yes

b) No

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## 57. Which of the following access modifiers are implicitly applied to variables in an interface?

a) private

b) protected

c) public

d) default

Click to View Answer and Explanation

## 58. Is it possible to create an instance of an interface?

a) Yes

b) No

Click to View Answer and Explanation

## 59. How many interfaces can a Java class implement?

a) None

b) Only one

c) Two

d) As many as needed

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## 60. Can an interface inherit from a class?

a) Yes

b) No

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## 61. Can an interface method be declared as final?

a) Yes

b) No

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## 62. In Java 9, which type of methods can be added to interfaces to share code between methods?

a) Static

b) Private

c) Final

d) Protected

Click to View Answer and Explanation

## 63. An interface with no methods is known as?

a) Abstract Interface

b) Marker Interface

c) Empty Interface

d) Functional Interface

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## 64. Which keyword is used to define a default method in an interface?

a) static

b) default

c) final

d) abstract

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## 65. Are all methods in an interface abstract?

a) Yes

b) No

c)

d)

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## 66. Which of these can be contained in an interface?

a) Abstract methods

b) Constants

c) Default and static methods

d) All of the above

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## 67. Which Java feature helps achieve multiple inheritance?

a) Abstract classes

b) Static methods

c) Interfaces

d) Enums

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## 68. What is the default access modifier of a method in an interface in Java?

a) private

b) protected

c) public

d) None of the above

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## 69. Why were default methods introduced in Java 8 interfaces?

a) To provide multiple inheritance

b) To add utility functions

c) To provide backward compatibility with older interface versions

d) For better performance

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## 70. Starting from which Java version can an interface contain method implementations?

a) Java 5

b) Java 7

c) Java 8

d) Java 9

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## 71. What is the purpose of the instanceof operator?

a) Multiply instances

b) Compare two object references

c) Check if an object is an instance of a specific class or interface

d) To create a new instance of a class

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## 72. Which keyword is used to declare a class variable?

a) volatile

b) transient

c) static

d) final

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## 73. Which keyword is used to prevent a class from being inherited?

a) final

b) abstract

c) class

d) extends

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## 74. Which keyword is used to create an instance of a class?

a) new

b) return

c) this

d) create

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## 75. Which keyword is used to inherit the properties and methods from another class?

a) import

b) package

c) extends

d) implements

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## 76. Which keyword is used to refer to the current instance of a class?

a) class

b) this

c) instance

d) object

Click to View Answer and Explanation

## 77. Which keyword in Java is used for importing packages into a program?

a) import

b) package

c) include

d) requires

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## 78. What does the transient keyword indicate in a Java class?

a) The variable can change over time

b) The variable cannot be serialized

c) The variable is thread-safe

d) The variable is volatile

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## 79. Which of these is a checked exception?

a) NullPointerException

b) ArithmeticException

c) IOException

d) IndexOutOfBoundsException

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## 80. Which of the following can be used to create a custom checked exception?

a) Extending the Exception class

b) Extending the Error class

c) Extending the RuntimeException class

d) None of the above

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## 81. Which of these is an unchecked exception?

a) ClassNotFoundException

b) SQLException

c) IOException

d) ArithmeticException

Click to View Answer and Explanation



## 82. Which keyword is used to manually throw an exception in Java?

a) new

b) throw

c) throws

d) Throwable

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## 83. Which of these classes is the superclass of all Exception and Error classes?

a) Exception

b) Error

c) Throwable

d) Object

Click to View Answer and Explanation

## 84. What does the finally block do?

a) Catches any exception

b) Executes whether an exception is thrown or not

c) Executes only when an exception is thrown

d) Executes only when an exception is not thrown

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## 85. Which keyword in Java is used for constant variables?

a) const

b) static

c) constant

d) final

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## 86. In Java, what is the primary purpose of the Thread class?

a) File handling

b) String operations

c) Network operations

d) Creating and executing threads

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## 87. Which method is used to start the execution of a thread?

a) run()

b) start()

c) execute()

d) go()

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## 88. What does the join() method do when called on a thread object?

a) Terminates the thread

b) Pauses the thread

c) Forces the current executing thread to wait until the thread it's called on completes

d) Checks the status of a thread

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## 89. Which method can be used to momentarily pause the execution of the current thread?

a) sleep()

b) wait()

c) pause()

d) stop()

Click to View Answer and Explanation

## 90. Which interface provides an alternative to extending the Thread class?

a) Runnable

b) Callable

c) Executor

d) Parallel

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## 91. What is a daemon thread in Java?

a) A thread that monitors and logs other threads

b) A thread that runs continuously in the background

c) A thread that manages memory usage

d) A thread that is part of the Java virtual machine

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## 92. Which interface represents a collection of objects in which duplicate values can be stored?

a) List

b) Set

c) Map

d) ListMap

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## 93. What will be the initial capacity of an ArrayList if it is created with the no-argument constructor?

a) 0

b) 5

c) 10

d) 16

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## 94. What does a Set guarantee?

a) Order

b) No duplicates

c) Both

d) None of the above

Click to View Answer and Explanation

## 95. Which List implementation is synchronized?

a) ArrayList

b) Vector

c) LinkedList

d) None of the above

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## 96. Which interface represents a key-value pair mechanism?

a) List

b) Set

c) Queue

d) Map

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## 97. Which method is used to check if a Collection is empty?

a) isEmpty()

b) isNull()

c) checkEmpty()

d) hasElements()

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## 98. What does the Collections class sort() method do?

a) Sorts elements in descending order

b) Sorts elements in ascending order

c) Randomizes the order of elements

d) Removes duplicates

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## 99. What is the key difference between HashSet and TreeSet?

a) HashSet allows duplicates; TreeSet doesn't

b) HashSet is ordered; TreeSet is unordered

c) HashSet is unordered; TreeSet is ordered

d) HashSet is synchronized; TreeSet is not

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## 100. Which Collection does not allow null values?

a) ArrayList

b) HashMap

c) Hashtable

d) LinkedList

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## 101. Which method is used to insert an object at a specific position in a List?

a) put()

b) set()

c) insert()

d) add()

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## 102. Which class provides a thread-safe implementation of the List interface?

a) ArrayList

b) Vector

c) HashMap

d) LinkedHashMap

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## 103. Which interface provides methods to traverse through a collection?

a) Iterator

b) Enumerator

c) Traverser

d) Mover

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**Answer:**

a) Iterator

**Explanation:**

The Iterator interface provides methods to traverse through a collection.

# 1. What is encapsulation in Java?

a) The process of combining data and methods into a single unit
b) The process of hiding data and methods within a class
c) The process of creating multiple instances of a class
d) The process of reusing code from existing classes

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## Answer:

a) The process of combining data and methods into a single unit

## Explanation:

Encapsulation is a mechanism in Java that bundles data and methods together within a class and restricts access to the data by using access modifiers. It allows for data hiding, protecting the internal state of an object and ensuring that it can only be accessed through defined methods.

# 2. What is inheritance in Java?

a) The process of creating multiple instances of a class
b) The process of hiding data and methods within a class
c) The process of reusing code from existing classes
d) The process of combining data and methods into a single unit

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## Answer:

c) The process of reusing code from existing classes

## Explanation:

Inheritance is a mechanism in Java that allows a class to inherit properties and behaviors from another class. It promotes code reuse by enabling the creation of subclasses that inherit the attributes and methods of a superclass. Subclasses can also add their own unique attributes and methods.

# 3. What is the difference between method overloading and method overriding in Java?

a) Method overloading occurs within the same class, while method overriding occurs between different classes.

b) Method overloading involves creating multiple methods with the same name but different parameters, while method overriding involves providing a different implementation for an inherited method.
c) Method overloading is a compile-time polymorphism concept, while method overriding is a runtime polymorphism concept.
d) All of the above.

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## Answer:

d) All of the above.

## Explanation:

All the statements are true. Method overloading allows the definition of multiple methods with the same name but different parameters within the same class. Method overriding occurs when a subclass provides a different implementation for a method that is already defined in its superclass. Method overloading is resolved at compile-time, while method overriding is resolved at runtime.

# 4. What is polymorphism in Java?

a) The ability of a class to inherit properties and behaviors from another class
b) The process of hiding data and methods within a class
c) The process of creating multiple instances of a class
d) The ability of an object to take on many forms

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## Answer:

d) The ability of an object to take on many forms

## Explanation:

Polymorphism refers to the ability of an object to take on many forms or have multiple behaviors. In Java, polymorphism is achieved through method overriding and method overloading. It allows objects of different classes to be treated as objects of a common superclass, providing flexibility and extensibility.

# 5. What are abstract classes in Java?

a) Classes that cannot be instantiated
b) Classes that can be used as blueprints for creating objects
c) Classes that only contain abstract methods
d) All of the above

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## Answer:

d) All of the above

## Explanation:

Abstract classes in Java cannot be instantiated directly and are typically used as blueprints for creating objects. They can contain abstract methods (methods without implementation) and regular methods. Abstract classes provide a way to define common behavior and enforce specific methods to be implemented by subclasses.

# 6. What is the purpose of the "super" keyword in Java?

a) To refer to the current object
b) To invoke the superclass constructor or methods
c) To create multiple instances of a class
d) To hide data and methods within a class

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## Answer:

b) To invoke the superclass constructor or methods

## Explanation:

The "super" keyword in Java is used to refer to the superclass (or parent class) of the current object. It is commonly used to invoke the superclass constructor or methods within the subclass. The "super" keyword allows for code reuse and accessing superclass members that may be overridden in the subclass.



# 7. What is the difference between a class and an object in Java?

a) A class is a blueprint for creating objects, while an object is an instance of a class.
b) A class is a single entity, while an object is a collection of entities.
c) A class contains data and methods, while an object only contains data.
d) A class cannot be instantiated, while an object can be created and used.

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## Answer:

a) A class is a blueprint for creating objects, while an object is an instance of a class.

## Explanation:

A class in Java is a template or blueprint that defines the structure and behavior of objects. It specifies the attributes (data) and methods that objects of that class will have. An object, on the other hand, is an instance of a class. It represents a specific entity or instance created based on the class blueprint.

# 8. What is the purpose of the "this" keyword in Java?

a) To refer to the superclass
b) To create multiple instances of a class
c) To hide data and methods within a class
d) To refer to the current object

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## Answer:

d) To refer to the current object

## Explanation:

The "this" keyword in Java is used to refer to the current object within an instance method or constructor. It is often used to distinguish between instance variables and method parameters or to access methods and variables of the current object.



# 9. What is method overriding in Java?

a) Creating multiple methods with the same name but different parameters within the same class.
b) Providing a different implementation for an inherited method in a subclass.
c) Hiding data and methods within a class.
d) Allowing a class to inherit properties and behaviors from another class.

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## Answer:

b) Providing a different implementation for an inherited method in a subclass.

## Explanation:

Method overriding occurs when a subclass provides a different implementation for a method that is already defined in its superclass. The method in the subclass must have the same name, return type, and parameters as the superclass method. Method overriding allows for polymorphism and dynamic method dispatch.

# 10. What is the purpose of the "final" keyword in Java?

a) To prevent the inheritance of a class
b) To prevent overriding of a method
c) To prevent modification of a variable's value
d) All of the above

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## Answer:

d) All of the above

## Explanation:

The "final" keyword in Java can be used to prevent the inheritance of a class, overriding of a method, or modification of a variable's value. When a class, method, or variable is declared as final, it cannot be further extended, overridden, or modified, respectively.

# 11. What is the purpose of the "abstract" keyword in Java?

a) To prevent the inheritance of a class
b) To prevent overriding of a method
c) To create an instance of a class
d) To declare an abstract class or method

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## Answer:

d) To declare an abstract class or method

## Explanation:

The "abstract" keyword in Java is used to declare an abstract class or method. An abstract class cannot be instantiated and serves as a blueprint for creating derived classes. An abstract method does not have an implementation and must be overridden in the subclass.

# 12. What is the difference between static and instance variables in Java?

a) Static variables are associated with the class itself, while instance variables are associated with an instance of a class.
b) Static variables are shared among all instances of a class, while instance variables have separate values for each instance.
c) Static variables can be accessed without creating an object, while instance variables require an object reference.
d) All of the above.

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## Answer:

d) All of the above.

## Explanation:

In Java, a static variable is a variable that belongs to the class rather than any particular object instance. It gets memory only once, during class loading. On the other hand, instance variables are non-static and are declared in a class outside any method, constructor, or block. They get memory each time an instance of the class is created.

The static variables are associated with a class rather than any particular instance, they are shared across all instances of the class. Meaning, that if you change the value of a static variable in one instance, the value gets reflected in all other instances. In contrast, each instance of a class has its own copy of instance variables, allowing them to have unique values for each object.

Static variables belong to the class, so they can be accessed using the class name without the need to create an instance of the class. Instance variables, on the other hand, require an object to be instantiated for them to be accessed. You need to create an instance (or object) of the class to access or modify instance variables.



# 13. What is the concept of data hiding in Java?

a) Encapsulating data within a class and providing controlled access through methods
b) Making data accessible to all classes in the program
c) Storing data in a central repository accessible to multiple classes
d) Restricting access to data within a specific package

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## Answer:

a) Encapsulating data within a class and providing controlled access through methods

## Explanation:

Data hiding in Java involves encapsulating data within a class and providing controlled access to it through methods. It ensures that the internal state of an object is protected and can only be accessed or modified using defined methods, maintaining data integrity and security.

# 14. What is the output of the following Java program?

```
public class Vehicle {
    public void move() {
        System.out.println("The vehicle moves");
    }
}

public class Car extends Vehicle {
    public void move() {
        System.out.println("The car moves");
    }
}

public class Main {
    public static void main(String[] args) {
        Vehicle vehicle = new Car();
        vehicle.move();
    }
}
```

A. "The vehicle moves"
B. "The car moves"
C. The code does not compile
D. None of the above

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## Answer:

B. "The car moves"

## Explanation:

In Java, a subclass can override methods from its superclass. In this example, the `Car` class is overriding the `move` method of the `Vehicle` class. Since the object is instantiated as a `Car`, the overridden `move` method in the `Car` class is called, producing the output "The car moves".

# 15. What is the output of the following Java program?

```
class Parent {
    String name = "parent";
    String message() {
```

```
        return "from parent";
    }
}

class Child extends Parent {
    String name = "child";
    String message() {
        return "from child";
    }
}

public class Main {
    public static void main(String[] args) {
        Parent p = new Child();
        System.out.println(p.name + " " + p.message());
    }
}
```

A. "parent from parent"
B. "child from child"
C. "parent from child"
D. "child from parent"

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## Answer:

C. "parent from child"

## Explanation:

In Java, while methods are overridden (dynamic binding), variables are not overridden (static binding). Therefore, `p.name` refers to the `Parent` class variable, and `p.message()` refers to the `Child` class method.


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+91 8007592194 +91 9284926333

codewitharrays@gmail.com

https://codewitharrays.in/project