

# IT- 11 Java Programming

**1. About Java: Which of the following statements accurately describes Java?**

- a) Java is a purely procedural language.
- b) Java is platform-dependent.
- c) Java is a compiled language.
- d) Java programs cannot run on the web.

**Answer: c) Java is a compiled language.**

**2. Flavors of Java: Which of the following is considered a flavor of Java?**

- a) Coffee
- b) JDK
- c) Cappuccino
- d) None of the above

**Answer: b) JDK**

**3. Java Installation: Which component is essential for Java Installation?**

- a) JDK
- b) IDE
- c) Browser
- d) None of the above

**Answer: a) JDK**

**4. Java Program Development Environment: What is commonly used for Java program development?**

- a) Eclipse
- b) Microsoft Word
- c) Adobe Photoshop
- d) None of the above

**Answer: a) Eclipse**

**5. Class Fundamentals: Which of the following statements is true about classes in Java?**

- a) Classes cannot have constructors.
- b) Classes cannot contain methods.
- c) Classes are templates for objects.
- d) Classes cannot be inherited.

**Answer: c) Classes are templates for objects.**

**6. Object & Object reference: In Java, what does an object reference hold?**

- a) The object itself
- b) The memory address of the object
- c) The class definition of the object
- d) None of the above

**Answer: b) The memory address of the object**

**7. Object Life time & Garbage Collection: When does an object become eligible for garbage collection in Java?**

- a) When it is created
- b) When it goes out of scope
- c) When it is explicitly destroyed
- d) When it is referenced by another object

**Answer: b) When it goes out of scope**

**8. Creating and Operating Objects: Which keyword is used to create an object in Java?**

- a) new
- b) create
- c) object
- d) instance

**Answer: a) new**

**9. Constructor & initialization code block: What is the purpose of a constructor in Java?**

- a) To initialize an object
- b) To define methods
- c) To control access to class members
- d) To perform arithmetic operations

**Answer: a) To initialize an object**

**10. Access Control, Modifiers, Use of Modifiers with Classes & Methods: Which access modifier restricts access the most in Java?**

- a) public
- b) protected
- c) private
- d) default

**Answer: c) private**

**11. Nested, Inner Class & Anonymous Classes, Abstract Class & Interfaces: Which of the following can contain members like methods and variables?**

- a) Nested class
- b) Inner class
- c) Anonymous class
- d) All of the above

**Answer: d) All of the above**

**12. Methods, Defining Methods, Argument Passing Mechanism, Method Overloading, Recursion, Dealing with Static Members, Finalize () Method, Native Method: What is method overloading in Java?**

- a) Defining methods with the same name but different return types
- b) Defining methods with the same name but different parameters
- c) Defining methods with different access modifiers

d) Defining methods with the same name and parameters but different return types

**Answer: b) Defining methods with the same name but different parameters**

**13. Use of "this" reference: In Java, what does the "this" keyword refer to?**

a) Current class instance

b) Current method

c) Current object being referred to

d) Current thread

**Answer: c) Current object being referred to**

**14. Design of Accessors and Mutator Methods: What is the purpose of accessor methods in Java?**

a) To modify the state of an object

b) To access the state of an object

c) To create new objects

d) To delete objects

**Answer: b) To access the state of an object**

**15. Cloning Objects, shallow and deep cloning: What does shallow cloning of an object mean in Java?**

a) Creating a copy of the object without copying its contained objects

b) Creating a copy of the object along with its contained objects

c) Creating a copy of the object with additional properties

d) None of the above

**Answer: a) Creating a copy of the object without copying its contained objects**

**16. Generic Class Types: What is the purpose of generics in Java?**

a) To specify the type of objects that a collection can contain

b) To restrict access to certain methods

c) To define new data types

d) To create generic methods

**Answer: a) To specify the type of objects that a collection can contain**

**17. Use and Benefits of Inheritance in OOP: What is the main benefit of inheritance in Java?**

- a) It allows code reuse and helps in the organization of code.
- b) It makes the code shorter.
- c) It allows multiple inheritance.
- d) It helps in dynamic method dispatch.

**Answer: a) It allows code reuse and helps in the organization of code.**

**18. Types of Inheritance in Java: Which of the following types of inheritance is not supported in Java?**

- a) Single inheritance
- b) Multiple inheritance
- c) Hierarchical inheritance
- d) Multilevel inheritance

**Answer: b) Multiple inheritance**

**19. Inheriting Data members and Methods: In Java, can a subclass access the private members of its superclass?**

- a) Yes
- b) No
- c) Only if they are static
- d) Only if they are final

**Answer: b) No**

**20. Role of Constructors in inheritance: When is the constructor of a superclass called in Java inheritance?**

- a) Before the constructor of the subclass
- b) After the constructor of the subclass
- c) Only if explicitly called by the subclass
- d) Never

**Answer: a) Before the constructor of the subclass**

**21. Overriding Super Class Methods, Use of "super": What does method overriding allow you to do in Java?**

- a) Define a method in a subclass with the same signature as a method in the superclass
- b) Define a method in a subclass with a different signature as a method in the superclass
- c) Delete a method from the superclass
- d) Rename a method in the superclass

**Answer: a) Define a method in a subclass with the same signature as a method in the superclass**

**22. Polymorphism in inheritance: What is polymorphism in Java?**

- a) The ability to define multiple methods with the same name in a class
- b) The ability of an object to take many forms
- c) The ability to define methods with multiple signatures
- d) The ability to define multiple constructors in a class

**Answer: b) The ability of an object to take many forms**

**23. Type Compatibility and Conversion: In Java, what is typecasting?**

- a) Converting an object of one type to another
- b) Converting a primitive type to an object
- c) Converting an object to a primitive type
- d) Converting a boolean value to an integer value

**Answer: a) Converting an object of one type to another**

**24. Implementing interfaces: Which of the following statements is true about interfaces in Java?**

- a) An interface can contain method definitions.
- b) An interface can contain method implementations.
- c) A class can implement multiple interfaces using multiple inheritance.
- d) An interface can extend multiple classes.

**Answer: a) An interface can contain method definitions.**

**25. Organizing Classes and Interfaces in Packages: What is the purpose of packages in Java?**

- a) To organize classes and interfaces
- b) To restrict access to classes and interfaces
- c) To improve performance
- d) All of the above

**Answer: d) All of the above**

**26. Package as Access Protection: Which access modifier is used to restrict access to members within the same package in Java?**

- a) public
- b) private
- c) protected
- d) default

**Answer: d) default**

**27. Defining Package: How are packages defined in Java?**

- a) Using the package keyword followed by the package name
- b) Using the import keyword followed by the package name
- c) Using the class keyword followed by the package name
- d) Using the extends keyword followed by the package name

**Answer: a) Using the package keyword followed by the package name**

**28. CLASSPATH Setting for Packages: What does the CLASSPATH environment variable specify in Java?**

- a) The location of Java installation directory
- b) The location of user-defined classes and packages
- c) The location of Java compiler
- d) The location of Java API documentation

**Answer: b) The location of user-defined classes and packages**

**29. Making JAR Files for Library Packages: What is a JAR file in Java?**

- a) A file format used for compressing text files
- b) A file format used for compressing image files
- c) A file format used for packaging Java classes and resources
- d) A file format used for packaging multimedia files

**Answer: c) A file format used for packaging Java classes and resources**

**30. Import and Static Import: What is the purpose of the import statement in Java?**

- a) To include external libraries
- b) To include classes and interfaces from other packages
- c) To include methods and variables from other classes
- d) All of the above

**Answer: b) To include classes and interfaces from other packages**

**31. Naming Convention for Packages: What is the recommended naming convention for packages in Java?**

- a) All lowercase
- b) All uppercase
- c) CamelCase
- d) Snake\_case

**Answer: a) All lowercase**

**32. The Idea behind Exception: What is an exception in Java?**

- a) An unexpected event that occurs during program execution
- b) An expected event that occurs during program execution
- c) A syntax error in the program
- d) A logical error in the program

**Answer: a) An unexpected event that occurs during program execution**



**33. Exceptions & Errors: What is the difference between an exception and an error in Java?**

- a) Exceptions are caused by the programmer, while errors are caused by the system.
- b) Exceptions are recoverable, while errors are not.
- c) Exceptions can be caught, while errors cannot.
- d) All of the above

**Answer: d) All of the above**

**34. Types of Exception: Which of the following is a checked exception in Java?**

- a) NullPointerException
- b) ArithmeticException
- c) IOException
- d) ArrayIndexOutOfBoundsException

**Answer: c) IOException**

**35. Control Flow in Exceptions: In Java, what happens if an exception is thrown inside a try block and is not caught?**

- a) The program continues execution normally.
- b) The program terminates.
- c) The program goes to the finally block.
- d) The program jumps to the catch block.

**Answer: b) The program terminates.**

**36. JVM reaction to Exceptions: How does the Java Virtual Machine react to an uncaught exception?**

- a) It terminates the program.
- b) It prints a warning message.
- c) It ignores the exception.
- d) It rethrows the exception.

**Answer: a) It terminates the program.**

**37. Use of try, catch, finally, throw, throws in Exception Handling: Which keyword is used to handle exceptions in Java?**

- a) exception
- b) try
- c) catch
- d) throw

**Answer: c) catch**

**38. In-built and User Defined Exceptions Checked and Un-Checked Exceptions: What is the difference between checked and unchecked exceptions in Java?**

- a) Checked exceptions are handled at compile time, while unchecked exceptions are handled at runtime.
- b) Checked exceptions are handled at runtime, while unchecked exceptions are handled at compile time.
- c) Checked exceptions are subclasses of RuntimeException, while unchecked exceptions are not.
- d) Checked exceptions are subclasses of Error, while unchecked exceptions are subclasses of Exception.

**Answer: a) Checked exceptions are handled at compile time, while unchecked exceptions are handled at runtime.**

**39. Defining an Array: How is an array declared in Java?**

- a) Using the new keyword followed by the array type and size
- b) Using the array keyword followed by the array type and size
- c) Using the int keyword followed by the array size
- d) Using the array type followed by the array size

**Answer: a) Using the new keyword followed by the array type and size**

**40. Initializing & Accessing Array: How do you access elements of an array in Java?**

- a) Using the index of the element
- b) Using the value of the element
- c) Using the name of the array
- d) Using a loop

**Answer: a) Using the index of the element**

**41. Multi-Dimensional Array: Which of the following statements is true about multi-dimensional arrays in Java?**

- a) Multi-dimensional arrays can have different lengths for each dimension.
- b) Multi-dimensional arrays must have the same length for each dimension.
- c) Multi-dimensional arrays cannot have more than two dimensions.
- d) Multi-dimensional arrays cannot be initialized.

**Answer: a) Multi-dimensional arrays can have different lengths for each dimension.**

**42. Operation on String, Mutable & Immutable String: In Java, are strings mutable or immutable?**

- a) Mutable
- b) Immutable
- c) Both mutable and immutable
- d) None of the above

**Answer: b) Immutable**

**43. Using Collection Bases Loop for String, Tokenizing a String: Which of the following is used for iterating over characters in a string in Java?**

- a) for loop
- b) while loop
- c) foreach loop
- d) None of the above

**Answer: a) for loop**

**44. Creating Strings using StringBuffer, String Builder: What is the primary difference between StringBuffer and StringBuilder in Java?**

- a) StringBuffer is thread-safe, while StringBuilder is not.
- b) StringBuilder is thread-safe, while StringBuffer is not.
- c) StringBuffer is immutable, while StringBuilder is mutable.
- d) StringBuilder is immutable, while StringBuffer is mutable.

**Answer: a) StringBuffer is thread-safe, while StringBuilder is not.**

**45. Understanding Threads: What is a thread in Java?**

- a) A process that runs independently of other processes
- b) A component of the CPU
- c) A type of exception
- d) A type of data structure

**Answer: a) A process that runs independently of other processes**

**46. Needs of Multi-Threaded Programming: What is the primary benefit of multi-threaded programming in Java?**

- a) Improved performance
- b) Reduced memory usage
- c) Simplified code
- d) Better exception handling

**Answer: a) Improved performance**

**47. Thread Life-Cycle: What are the possible states of a thread in Java?**

- a) Ready, Running, Blocked, Terminated
- b) New, Ready, Running, Waiting, Terminated
- c) New, Running, Waiting, Blocked, Terminated
- d) New, Ready, Running, Blocked, Terminated

**Answer: d) New, Ready, Running, Blocked, Terminated**

**48. Thread Priorities: What is the range of thread priorities in Java?**

- a) 0 to 10
- b) 1 to 100
- c) -10 to 10
- d) -128 to 127

**Answer: c) -10 to 10**

**49. Synchronizing Threads: What is synchronization in Java?**

- a) Ensuring that only one thread can access a resource at a time
- b) Ensuring that multiple threads can access a resource simultaneously
- c) Ensuring that threads execute in a specified order
- d) Ensuring that threads have the same priority

**Answer: a) Ensuring that only one thread can access a resource at a time**

**50. Inter Communication of Threads: How do threads communicate with each other in Java?**

- a) Using global variables
- b) Using shared memory
- c) Using method calls
- d) All of the above

**Answer: d) All of the above**