

Java Test Sample Test II – 20 Single Choice Questions (0–50 p.)

Name and Surname: _____

1. Which interface does `HashSet` implement in Java Collections?
A. List
B. Set
C. Map
D. Queue
2. Which Java collection allows duplicate elements and preserves insertion order?
A. `HashSet`
B. `TreeSet`
C. `ArrayList`
D. `PriorityQueue`
3. What is the time complexity of retrieving an element from a `HashMap` by key?
A. $O(1)$ on average
B. $O(n)$ always
C. $O(\log n)$
D. $O(n \log n)$
4. Which method is used to remove all elements from a collection?
A. `clear()`
B. `deleteAll()`
C. `removeAll()`
D. `reset()`
5. In a `LinkedList`, what is the time complexity to add an element at the beginning?
A. $O(n)$
B. $O(\log n)$
C. $O(1)$
D. $O(n \log n)$
6. Which design pattern ensures a class has only one instance?
A. Factory
B. Singleton
C. Observer
D. Strategy
7. What is the main purpose of `svg`?
A. Create objects without specifying exact class
B. Ensure one instance
C. Manage object dependencies
D. Provide scalable vector graphics
8. What is true about `svg`?
A. Its code is similar to `xml`
B. It is a Java library
C. It works the same as `jpg`
D. It is a class
9. The Decorator pattern is mainly used to:
A. Add responsibilities to objects dynamically
B. Create single instance
C. Simplify class creation
D. Replace inheritance
10. Classes `Pizza`, `PizzaWithHam` and `PizzaWithCheese` realize most probably which design pattern?
A. Adapter
B. Facade
C. Decorator
D. Command

11. Which statement is true about abstract classes in Java?
- A. Can be instantiated
 - B. Can contain abstract methods
 - C. Cannot have constructors
 - D. Cannot have fields
12. What is required when a class implements an interface?
- A. Override all interface methods
 - B. Create abstract class
 - C. Use private methods only
 - D. Nothing is required
13. Can an abstract class implement an interface without overriding its methods?
- A. Yes
 - B. No
 - C. Only if class is final
 - D. Only with static methods
14. Which keyword is used to declare an interface?
- A. abstract
 - B. implements
 - C. interface
 - D. class
15. Can an interface contain default methods with implementation?
- A. Yes
 - B. No
 - C. Only if public
 - D. Only in abstract class
16. Which class is used to read text files line by line in Java?
- A. FileReader
 - B. Scanner
 - C. BufferedReader
 - D. PrintWriter
17. How do you write text to a file in Java?
- A. Using System.out
 - B. Using FileWriter/BufferedWriter
 - C. Using Scanner
 - D. Using Math class
18. What happens if you forget to close a file after writing?
- A. File is auto-deleted
 - B. Resources may leak
 - C. File is always corrupted
 - D. Nothing happens
19. Which exception must be handled or declared when reading/writing files?
- A. IOException
 - B. NullPointerException
 - C. ArithmeticException
 - D. RuntimeException
20. Which method flushes the output stream to ensure all data is written to file?
- A. close()
 - B. flush()
 - C. write()
 - D. finalize()