


4. Throwing Exceptions & Catching Multiple Exceptions

Direct Questions


1. Which keyword is used to explicitly throw an exception?
 - a) throws
 - b) catch
 - c) try
 - d) **throw**

 Answer: d

2. Which statement is true about multi-catch in Java?
 - a) It only catches checked exceptions
 - b) **It can catch multiple exceptions in a single catch block**
 - c) It replaces the try block
 - d) It is optional in exception handling

 Answer: b

3. Which is valid syntax for multi-catch?
 - a) catch(IOException, SQLException e)
 - b) **catch(IOException | SQLException e)**
 - c) catch(IOException & SQLException e)
 - d) catch(IOException || SQLException e)

 Answer: b

Scenario-Based Questions

4. A method throws both **IOException** and **SQLException**. How should the caller handle this?
 - a) Use two try blocks
 - b) Ignore them
 - c) **Use a multi-catch block**
 - d) Handle only IOException

 Answer: c


5. If one of several exceptions is thrown in a try block, what ensures the correct one is caught?
 - a) Nested try-catch
 - b) **Order of catch blocks (from specific to general)**
 - c) Using only one catch block
 - d) Skipping exception types


 Answer: b


5. Finally Block

Direct Questions

1. **When is the `finally` block executed?**
 - a) Only on exception
 - b) Only on no exception
 - c) **Always**
 - d) Never


 **Answer: c**
2. **What is the purpose of `finally`?**
 - a) Throw an exception
 - b) Skip the error
 - c) **Clean-up resources**
 - d) Catch the error


 **Answer: c**
3. **Can a program have a try block without a finally or catch?**
 - a) No
 - b) **Yes, only if finally is used**
 - c) Yes, if catch is there
 - d) Only for unchecked exceptions

 **Answer: b**

Scenario-Based Questions

4. **Your code opens a file stream. Where should the `close()` method be written?**
 - a) try block
 - b) catch block
 - c) throw block
 - d) **finally block**

 **Answer: d**
5. **If both catch and finally contain return statements, which one is executed?**
 - a) catch
 - b) none
 - c) **finally**
 - d) try

 **Answer: c**

6. Custom Exceptions

Direct Questions

1. **How do you define a custom exception?**
 - a) class `MyException` implements `Exception`
 - b) **class `MyException` extends `Exception`**
 - c) class `MyException` extends `Throwable`

d) class MyException implements Throwable

✓ Answer: b

2. What must a custom exception include?

- a) A main method
- b) A **constructor**
- c) static block
- d) finalize method

✓ Answer: b

3. Custom exceptions are typically used for:

- a) Compilation errors
- b) Runtime exceptions
- c) **Application-specific errors**
- d) JVM errors

✓ Answer: c



Scenario-Based Questions

4. Your application needs to raise an error when the balance is negative. What should you do?

- a) throw ArithmeticException
- b) **Create a custom NegativeBalanceException**
- c) Use RuntimeException
- d) Ignore it

✓ Answer: b

5. You want to log all user-related validation errors. What's the best way?

- a) Use try-catch
- b) **Create UserValidationException**
- c) Throw NullPointerException
- d) Handle with finally

✓ Answer: b

7. Concurrency



Direct Questions

1. Which interface must be implemented for multithreading?


- a) Serializable
- b) **Runnable**
- c) Comparable
- d) Cloneable

✓ Answer: b

2. What does the **synchronized** keyword do?


- a) Speeds up thread execution

- b) **Ensures only one thread can access a resource**
- c) Removes deadlocks
- d) Starts new thread

 **Answer: b**

3. What method starts a thread in Java?

- a) run()
- b) execute()
- c) **start()**
- d) init()


 **Answer: c**



Scenario-Based Questions


4. Two threads try to update the same bank account. How do you prevent inconsistency?

- a) Use run()
- b) start()
- c) **Use synchronized block**
- d) Use throw

 **Answer: c**

5. What happens if run() is called instead of start()?

- a) Thread runs in parallel
- b) **Thread runs like a normal method (no concurrency)**
- c) JVM throws error
- d) Thread is created twice

 **Answer: b**

8. File I/O



Direct Questions


1. Which class is used to write to a file in Java?

- a) Scanner
- b) FileReader
- c) **FileWriter**
- d) BufferedReader

 **Answer: c**


2. Which package contains File I/O classes?

- a) java.net
- b) java.util
- c) java.sql
- d) **java.io**

 **Answer: d**

3. Which exception must be handled during file operations?

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


 Answer: c



Scenario-Based Questions

4. You want to append text to an existing file. What should you do?

- a) new FileWriter("file.txt")
- b) new File("file.txt")
- c) **new FileWriter("file.txt", true)**
- d) use Scanner

 Answer: c

5. How to ensure resources are closed after reading a file?

- a) finally block
- b) catch block
- c) Use throws
- d) **Try-with-resources**

 Answer: d


9. SOLID Design Principles



Direct Questions

1. What does the “S” in SOLID stand for?

- a) Strong typing
- b) Static class
- c) **Single Responsibility Principle**
- d) Software Abstraction

 Answer: c

2. Which principle says, “Software entities should be open for extension, but closed for modification”?

- a) Liskov Substitution
- b) Dependency Inversion
- c) Interface Segregation
- d) **Open/Closed Principle**

 Answer: d

3. Which principle encourages using interfaces over concrete classes?

- a) **Dependency Inversion**
- b) Interface Segregation
- c) Liskov Substitution

d) Single Responsibility

✓ Answer: a



Scenario-Based Questions

4. A class performs too many tasks: reading input, processing, writing output. Which SOLID principle is violated?

- a) Liskov Substitution
- b) **Single Responsibility**
- c) Interface Segregation
- d) Open/Closed

✓ Answer: b

5. A function is changed to support new requirements by adding new classes. Existing code is untouched. Which principle is followed?

- a) Single Responsibility
- b) Interface Segregation
- c) **Open/Closed**
- d) Liskov Substitution

✓ Answer: c

10. JDBC & NoSQL



Direct Questions

1. Which package is used for JDBC in Java?

- a) java.io
- b) java.net
- c) **java.sql**
- d) java.db

✓ Answer: c

2. Which method is used to execute a SELECT query in JDBC?

- a) executeUpdate()
- b) execute()
- c) **executeQuery()**
- d) executeSelect()

✓ Answer: c

3. Which of the following is a NoSQL database?

- a) MySQL
- b) Oracle
- c) **MongoDB**
- d) SQLite

✓ Answer: c




Scenario-Based Questions

4. You want to retrieve data using JDBC. What steps are required?
- a) Only load the driver
 - b) Only write the query
 - c) **Load driver → Get connection → Create statement → Execute query**
 - d) Use Scanner

 **Answer: c**

5. Your application needs to store unstructured JSON data. What database is best?
- a) MySQL
 - b) PostgreSQL
 - c) **MongoDB**
 - d) Oracle

 **Answer: c**