

## Assessment-1

### Core Java

1. Which of the following is not a Java feature?
  - A. Dynamic
  - B. Architecture Neutral
  - C. Use of Pointers
  - D. Object-oriented
  - **Answer: C**
2. Which of the following is the correct syntax for a main method in Java?
  - A. `public void main(String args[])`
  - B. `public static void main(String args[])`
  - C. `public static int main(String args[])`
  - D. `public int main(String args[])`
  - **Answer: B**
3. Which data type is used to create a variable that should store text?
  - A. `myString`
  - B. `string`
  - C. `String`
  - D. `Txt`
  - **Answer: C**
4. Which of the following is a valid declaration of a char?
  - A. `char ch = '\utea';`
  - B. `char ca = 'tea';`
  - C. `char cr = '\u0223;`
  - D. `char cc = '\itea';`
  - **Answer: A**
5. Which method can be used to find the length of a string in Java?
  - A. `length()`
  - B. `getSize()`
  - C. `getLength()`
  - D. `size()`
  - **Answer: A**
6. Which of the following is a valid keyword in Java?
  - A. `interface`
  - B. `string`
  - C. `Float`
  - D. `unsigned`
  - **Answer: A**
7. Which of the following is not an access modifier in Java?
  - A. `protected`
  - B. `public`
  - C. `void`
  - D. `private`
  - **Answer: C**

8. Which of these cannot be used for a variable name in Java?
- A. identifier
  - B. variable
  - C. 1st\_variable
  - D. \$var
  - **Answer: C**
9. Which of the following loops will execute the body of loop even when the condition controlling the loop is initially false?
- A. for
  - B. while
  - C. do-while
  - D. none
  - **Answer: C**
10. What is the size of a byte variable in Java?
- A. 4 bits
  - B. 8 bits
  - C. 16 bits
  - D. 32 bits
  - **Answer: B**

## Java 8 Features

11. Which of the following is a new feature in Java 8?
- A. String concatenation
  - B. Lambdas
  - C. Swing
  - D. Collections
  - **Answer: B**
12. What is the use of the `default` keyword in interfaces in Java 8?
- A. To define the default implementation of a method
  - B. To mark the method for deletion
  - C. To overload the method
  - D. To define a new class
  - **Answer: A**
13. Which of the following is true about functional interfaces in Java 8?
- A. They must contain exactly one abstract method
  - B. They can contain multiple abstract methods
  - C. They must be annotated with `@FunctionalInterface`
  - D. They can be used as anonymous classes only
  - **Answer: C**
14. Which package contains the `Stream` API in Java 8?
- A. `java.lang`
  - B. `java.io`
  - C. `java.util.stream`
  - D. `java.util.function`
  - **Answer: C**
15. Which of the following is not a valid method of `java.util.stream.Stream`?
- A. `filter`
  - B. `map`
  - C. `collect`

- D. parse
- **Answer: D**
- 16. Which of the following is used to create an infinite stream in Java 8?
  - A. Stream.generate()
  - B. Stream.infinite()
  - C. Stream.create()
  - D. Stream.repeat()
  - **Answer: A**
- 17. What does the Optional class in Java 8 help to address?
  - A. NullPointerExceptions
  - B. Compile-time errors
  - C. Infinite loops
  - D. Incorrect type casting
  - **Answer: A**
- 18. Which method is used to check if an Optional contains a value in Java 8?
  - A. hasValue()
  - B. isPresent()
  - C. exists()
  - D. valuePresent()
  - **Answer: B**
- 19. What type of expression is a lambda expression in Java 8?
  - A. Anonymous function
  - B. Named function
  - C. Parameterized function
  - D. Static function
  - **Answer: A**
- 20. Which functional interface does the forEach method in Java 8 accept?
  - A. Consumer
  - B. Supplier
  - C. Function
  - D. Predicate
  - **Answer: A**

## JDBC

- 21. Which of the following is not a JDBC driver type?
  - A. JDBC-ODBC bridge driver
  - B. Native-API driver
  - C. Network Protocol driver
  - D. Embedded driver
  - **Answer: B**
- 22. Which method is used to execute a SELECT query in JDBC?
  - A. execute()
  - B. executeQuery()
  - C. executeUpdate()
  - D. executeSelect()
  - **Answer: B**
- 23. Which method is used to execute an INSERT, UPDATE, or DELETE query in JDBC?
  - A. execute()

- B. executeQuery()
  - C. executeUpdate()
  - D. executeInsert()
  - **Answer: D**
24. Which JDBC type represents a SQL DATE?
- A. java.sql.Date
  - B. java.sql.Timestamp
  - C. java.sql.Time
  - D. java.util.Date
  - **Answer: A**
25. Which method is used to load a JDBC driver class in Java?
- A. Class.forName()
  - B. DriverManager.load()
  - C. Driver.load()
  - D. DriverManager.registerDriver()
  - **Answer: A**
26. What does the getConnection method of DriverManager return?
- A. Statement
  - B. Connection
  - C. ResultSet
  - D. SQLWarning
  - **Answer: B**
27. Which of the following is not a valid JDBC URL?
- A. jdbc:mysql://localhost:3306/mydb
  - B. jdbc:oracle:thin:@localhost:1521
  - C. jdbc:sqlserver://localhost;databaseName=mydb
  - D. jdbc:database://localhost/mydb
  - **Answer: D**
28. How do you set a string parameter in a PreparedStatement in JDBC?
- A. setString(index, value)
  - B. setParameter(index, value)
  - C. setStringValue(index, value)
  - D. setParam(index, value)
  - **Answer: B**
29. Which method is used to close a Connection object in JDBC?
- A. closeConnection()
  - B. end()
  - C. close()
  - D. disconnect()
  - **Answer: C**
30. What exception is thrown by JDBC methods?
- A. SQLException
  - B. IOException
  - C. ClassNotFoundException
  - D. ConnectionException
  - **Answer: A**

## Collections

31. Which of the following is not a part of the Java Collections Framework?

- A. HashMap
  - B. Hashtable
  - C. TreeSet
  - D. Array
  - **Answer: D**
32. Which class provides a resizable array implementation in Java?
- A. Array
  - B. Arrays
  - C. ArrayList
  - D. LinkedList
  - **Answer: C**
33. Which of the following is a marker interface?
- A. Serializable
  - B. Cloneable
  - C. EventListener
  - D. All of the above
  - **Answer: D**
34. Which method is used to add an element at a specific position in a list?
- A. add()
  - B. insert()
  - C. addAt()
  - D. add(index, element)
  - **Answer: D**
35. Which interface does java.util.HashSet implement?
- A. List
  - B. Collection
  - C. Set
  - D. Map
  - **Answer: C**

## Exception Handling

36. Which of the following is a checked exception?
- A. IOException
  - B. NullPointerException
  - C. ArrayIndexOutOfBoundsException
  - D. ArithmeticException
  - **Answer: A**
37. Which keyword is used to handle exceptions in Java?
- A. try
  - B. catch
  - C. throw
  - D. All of the above
  - **Answer: D**
38. Which block is always executed in Java, whether an exception is handled or not?
- A. try
  - B. catch
  - C. finally
  - D. throw
  - **Answer: C**

39. Which of the following is true about the `throw` keyword in Java?

- ☐ A. Used to declare an exception
- ☐ B. Used to throw an exception
- ☐ C. Used to handle an exception
- ☐ D. Used to ignore an exception
- ☐ Answer: C

40. Which of the following is a runtime exception?

- ☐ A. `IOException`
- ☐ B. `SQLException`
- ☐ C. `ClassNotFoundException`
- ☐ D. `NullPointerException`
- ☐ Answer: D

## Multithreading

41. Which method must be implemented by all threads?

- ☐ A. `run()`
- ☐ B. `start()`
- ☐ C. `execute()`
- ☐ D. `main()`
- ☐ Answer: A

42. Which of the following is a valid constructor of the `Thread` class?

- ☐ A. `Thread()`
- ☐ B. `Thread(Runnable r)`
- ☐ C. `Thread(String name)`
- ☐ D. All of the above
- ☐ Answer: D

43. Which of the following is the correct way to start a new thread?

- ☐ A. `thread.run()`
- ☐ B. `thread.start()`
- ☐ C. `thread.init()`
- ☐ D. `thread.execute()`
- ☐ Answer: B

44. Which method is used to pause the execution of a thread for a specific period?

- ☐ A. `suspend()`
- ☐ B. `stop()`
- ☐ C. `sleep()`
- ☐ D. `wait()`
- ☐ Answer: C

45. Which is the correct way to implement a thread in Java?

- ☐ A. Extend the `Thread` class
- ☐ B. Implement the `Runnable` interface
- ☐ C. Both A and B
- ☐ D. None of the above
- ☐ Answer: C

46. Which method is used to wait for a thread to finish its execution?

- ☐ A. `wait()`
- ☐ B. `notify()`
- ☐ C. `join()`
- ☐ D. `finish()`

- **Answer: C**
- 47. **What does the `synchronized` keyword in Java do?**
  - A. Allows multiple threads to access a resource
  - B. Prevents multiple threads from accessing a resource simultaneously
  - C. Stops a thread from executing
  - D. Starts a new thread
  - **Answer: B**
- 48. **Which method is called when a thread is started?**
  - A. `init()`
  - B. `run()`
  - C. `start()`
  - D. `execute()`
  - **Answer: C**
- 49. **Which of the following is not a state of a thread?**
  - A. New
  - B. Runnable
  - C. Blocked
  - D. Finished
  - **Answer: D**
- 50. **What does the `wait()` method do in a synchronized block?**
  - A. Releases the lock and waits until `notify()` or `notifyAll()` is called
  - B. Acquires the lock and waits
  - C. Continues execution without waiting
  - D. Throws an exception
  - **Answer: A**

## Assesment-2

### Spring Core

1. **Which of the following is not a core module of the Spring Framework?**
  - A. Spring AOP
  - B. Spring MVC
  - C. Spring ORM
  - D. Spring Data
  - **Answer: D**
2. **Which of the following is a benefit of using Spring Framework?**
  - A. Lightweight
  - B. Inversion of Control
  - C. Aspect-Oriented Programming
  - D. All of the above
  - **Answer: D**

3. **Which annotation is used to define a Spring bean?**
- A. @Component
  - B. @Bean
  - C. @Service
  - D. All of the above
  - **Answer: D**
4. **What is the default scope of a Spring bean?**
- A. Singleton
  - B. Prototype
  - C. Request
  - D. Session
  - **Answer: A**
5. **Which of the following is used for dependency injection in Spring?**
- A. Constructor injection
  - B. Setter injection
  - C. Field injection
  - D. All of the above
  - **Answer: D**

## Spring JDBC

6. **Which class is used to simplify database operations in Spring JDBC?**
- A. JdbcTemplate
  - B. HibernateTemplate
  - C. JpaTemplate
  - D. SqlTemplate
  - **Answer: A**
7. **Which method in JdbcTemplate is used to execute a query that returns a single row?**
- A. queryForMap
  - B. queryForObject
  - C. queryForList
  - D. execute
  - **Answer: B**
8. **How do you handle exceptions in Spring JDBC?**
- A. By using try-catch blocks
  - B. Using SQLExceptionTranslator
  - C. By implementing ErrorHandler
  - D. Using ExceptionHandler
  - **Answer: B**

## Spring MVC

9. **Which annotation is used to mark a class as a Spring MVC controller?**
- A. @Controller
  - B. @Service
  - C. @Repository



- D. @Component
  - **Answer: A**
10. Which annotation is used to map a web request to a specific method in a controller?
- A. @RequestMapping
  - B. @GetMapping
  - C. @PostMapping
  - D. All of the above
  - **Answer: C**
11. Which of the following is a correct way to handle exceptions in Spring MVC?
- A. Using @ExceptionHandler
  - B. Using @ControllerAdvice
  - C. Using HandlerExceptionResolver
  - D. All of the above
  - **Answer: D**
12. What is the default return type of a controller method in Spring MVC?
- A. ModelAndView
  - B. String
  - C. void
  - D. Object
  - **Answer: B**

## Spring Security

13. Which of the following is not a core component of Spring Security?
- A. Authentication
  - B. Authorization
  - C. Auditing
  - D. Encryption
  - **Answer: C**
14. Which filter is used by Spring Security to perform authentication?
- A. AuthenticationFilter
  - B. UsernamePasswordAuthenticationFilter
  - C. AuthorizationFilter
  - D. LoginFilter
  - **Answer: B**
15. How can you configure method-level security in Spring?
- A. Using @Secured
  - B. Using @PreAuthorize
  - C. Using @RolesAllowed
  - D. All of the above
  - **Answer: D**
16. Which annotation is used to enable Spring Security in a Spring Boot application?
- A. @EnableWebSecurity
  - B. @EnableSecurity
  - C. @EnableSpringSecurity

- D. @EnableAuthorization
- **Answer: A**

## Hibernate

17. Which of the following is not a Hibernate object state?

- A. Transient
- B. Persistent
- C. Detached
- D. Static
- **Answer: D**

18. Which method is used to save an object in Hibernate?

- A. save()
- B. persist()
- C. saveOrUpdate()
- D. All of the above
- **Answer: D**

19. Which of the following is used to configure Hibernate?

- A. hibernate.cfg.xml
- B. hibernate.properties
- C. Both A and B
- D. None of the above
- **Answer: C**

20. Which annotation is used to mark a class as an entity in Hibernate?

- A. @Entity
- B. @Table
- C. @MappedEntity
- D. @HibernateEntity
- **Answer: A**

21. What is the default fetching strategy in Hibernate?

- A. Eager
- B. Lazy
- C. Immediate
- D. Preload
- **Answer: B**

## Spring Boot

22. Which annotation is used to enable Spring Boot auto-configuration?

- A. @EnableAutoConfiguration
- B. @SpringBootApplication
- C. @EnableConfiguration
- D. @AutoConfiguration
- **Answer: B**

23. How do you run a Spring Boot application?

- A. Using `java -jar`
- B. Using `mvn spring-boot:run`

- C. Using an IDE
  - D. All of the above
  - **Answer: D**
24. Which file is used to configure Spring Boot application settings?
- A. application.properties
  - B. application.yml
  - C. Both A and B
  - D. application.xml
  - **Answer: C**
25. Which dependency is used to create a Spring Boot project?
- A. spring-boot-starter
  - B. spring-boot-autoconfigure
  - C. spring-boot-starter-parent
  - D. spring-boot-application
  - **Answer: A**

## Maven

26. What is the default packaging type in Maven?
- A. jar
  - B. war
  - C. ear
  - D. pom
  - **Answer: A**
27. Which file is used to configure a Maven project?
- A. build.xml
  - B. project.xml
  - C. pom.xml
  - D. settings.xml
  - **Answer: C**
28. Which Maven plugin is used to compile Java code?
- A. maven-compiler-plugin
  - B. maven-jar-plugin
  - C. maven-war-plugin
  - D. maven-assembly-plugin
  - **Answer: A**
29. Which of the following is not a build lifecycle in Maven?
- A. clean
  - B. validate
  - C. deploy
  - D. compile
  - **Answer: B**
30. Which of the following is used to specify a dependency in Maven?
- A. <dependency>
  - B. <include>
  - C. <require>
  - D. <use>

- **Answer: A**

## Git

31. Which command is used to create a new Git repository?
- A. git init
  - B. git create
  - C. git new
  - D. git start
  - **Answer: A**
32. Which command is used to clone a Git repository?
- A. git copy
  - B. git clone
  - C. git pull
  - D. git download
  - **Answer: B**
33. Which command is used to stage changes for the next commit?
- A. git add
  - B. git commit
  - C. git push
  - D. git stage
  - **Answer: A**
34. Which command is used to view the commit history in Git?
- A. git history
  - B. git log
  - C. git status
  - D. git commits
  - **Answer: B**
35. Which command is used to merge branches in Git?
- A. git merge
  - B. git integrate
  - C. git join
  - D. git rebase
  - **Answer: A**

## Spring ORM with Hibernate

36. Which class is used as the central interface for Spring's Hibernate integration?
- A. HibernateTemplate
  - B. HibernateManager
  - C. HibernateController
  - D. HibernateExecutor
  - **Answer: B**
37. Which method in HibernateTemplate is used to save an entity?
- A. save
  - B. persist
  - C. saveOrUpdate

- D. All of the above

○ **Answer: D**

38. Which transaction management type is recommended in Spring applications?

- A. Programmatic
- B. Declarative
- C. Both A and B
- D. None of the above

○ **Answer: B**

39. Which annotation is used to enable transaction management in Spring?

- A. @EnableTransactionManagement
- B. @Transaction
- C. @Transactional
- D. @TransactionManagement

○ **Answer: A**

40. How do you configure a DataSource in a Spring application?

- A. Using Java configuration
- B. Using XML configuration
- C. Using application.properties or application.yml
- D. All of the above

○ **Answer: D**