\*\*Question 1:\*\* (Medium)

Which phase in the Maven build lifecycle is responsible for installing the project's artifacts into the local repository?

a) clean

b) package

c) deploy

d) install

\*\*Answer: d) install\*\*

\*\*Question 2:\*\* (Simple)

Which file defines the project configuration, dependencies, and build process in a Maven project?

a) pom.xml

b) build.gradle

c) settings.xml

d) project.properties

\*\*Answer: a) pom.xml\*\*

\*\*Question 3:\*\* (Medium)

What Git command is used to create a new branch and switch to it immediately?

a) git commit

b) git branch

c) git checkout

d) git merge

\*\*Answer: c) git checkout\*\*

\*\*Question 4:\*\* (Complex)

You want to undo the last commit, preserving the changes locally. Which Git command should you use?

a) git reset --hard HEAD~1

b) git revert HEAD

c) git reset --soft HEAD~1

d) git commit --amend

\*\*Answer: c) git reset --soft HEAD~1\*\*

\*\*Question 5:\*\* (Medium)

Which Jenkins plugin is commonly used to facilitate the integration and delivery of code changes in a pipeline?

a) Jenkinsfile Plugin

b) Git Plugin

c) Artifactory Plugin

d) Docker Plugin

\*\*Answer: b) Git Plugin\*\*

\*\*Question 6:\*\* (Medium)

Which Jenkins feature allows you to define and execute a series of build and deployment steps in response to specific triggers?

a) Jenkins Pipelines

b) Jenkinsfile

c) Jenkins Plugins

d) Jenkins Stages

\*\*Answer: a) Jenkins Pipelines\*\*

\*\*Question 7:\*\* (Simple)

Which of the following statements is true about MongoDB's BSON data format?

a) BSON stands for "Binary Object Notation" and is a human-readable text format.

b) BSON is a compressed format used for long-term archival of MongoDB data.

c) BSON is a binary representation of JSON-like documents and is used as the primary data storage format in MongoDB.

d) BSON is a JavaScript-based format designed for easy integration with web applications.

\*\*Answer: c) BSON is a binary representation of JSON-like documents and is used as the primary data storage format in MongoDB.\*\*

\*\*Question 8:\*\* (Medium)

Which of the following is true regarding MongoDB's primary key, known as the "\_id" field?

a) The "\_id" field must be an integer and auto-incremented.

b) The "\_id" field is automatically created for each document and is globally unique across all collections in the database.

c) The "\_id" field is required for each document, but you can choose its data type and value.

d) The "\_id" field is only required for documents in capped collections.

\*\*Answer: c) The "\_id" field is required for each document, but you can choose its data type and value.\*\*

\*\*Question 9:\*\* (Simple)

Which Java Collection class provides an ordered, index-based collection and allows duplicate elements?

a) HashSet

b) ArrayList

c) HashMap

d) TreeSet

\*\*Answer: b) ArrayList\*\*

\*\*Question 10:\*\* (Medium)

Which Java Collection class provides a key-value mapping and does not allow duplicate keys?

a) HashMap

b) ArrayList

c) TreeSet

d) TreeMap

\*\*Answer: d) TreeMap\*\*

\*\*Question 11:\*\* (Medium)

What is the output of the following Java code?

import java.util.HashMap;

import java.util.Map;

public class CollectionExample {

public static void main(String[] args) {

Map<String, Integer> scores = new HashMap<>();

scores.put("Alice", 90);

scores.put("Bob", 85);

scores.put("Charlie", 92);

int aliceScore = scores.get("Eve");

System.out.println(aliceScore);

}

}

a) Alice

b) 90

c) 85

d) Error

\*\*Answer: d) Error\*\*

\*\*Question 12:\*\* (Complex)

Which type of ResultSet in Java JDBC is not updatable and provides the best performance for read-only operations?

a) TYPE\_SCROLL\_SENSITIVE

b) TYPE\_FORWARD\_ONLY

c) TYPE\_SCROLL\_INSENSITIVE

d) TYPE\_SCROLL\_SENSITIVE\_UPDATEABLE

\*\*Answer: b) TYPE\_FORWARD\_ONLY\*\*

\*\*Question 13:\*\* (Complex)

In JDBC, what is the purpose of the `ResultSet` method `next()`?

a) Moves the cursor to the previous row in the result set.

b) Closes the result set.

c) Moves the cursor to the next row in the result set and returns `true` if there are more rows; otherwise, returns `false`.

d) Retrieves the number of rows in the result set.

\*\*Answer: c) Moves the cursor to the next row in the result set and returns `true` if there are more rows; otherwise, returns `false`.\*\*

\*\*Question 14:\*\* (Medium)

Which of the following JDBC interfaces is responsible for managing database transactions in a Java application?

a) `ResultSet`

b) `Statement`

c) `Connection`

d) `TransactionManager`

\*\*Answer: c) `Connection`\*\*

\*\*Question 15:\*\* (Simple)

Which of the following exceptions is a checked exception commonly thrown in JDBC operations when a database connection cannot be established?

a) `SQLException`

b) `NullPointerException`

c) `IOException`

d) `RuntimeException`

\*\*Answer: a) `SQLException`\*\*

\*\*Question 16: Java Collections\*\* (Medium)

Which Java collection is most suitable for storing a large dataset where elements are unique, need to be quickly accessed, and are frequently searched for?

A) ArrayList

B) HashSet

C) TreeMap

D) LinkedHashMap

\*\*Answer : C) TreeMap\*\*

---

\*\*Question 17: Java Collections\*\* (Complex)

What is the time complexity of the `remove` operation in a LinkedList in the worst-case scenario?

A) O(1)

B) O(log N)

C) O(N)

D) O(N^2)

\*\*Answer : C) O(N)\*\*

\*\*Question 18: JDBC with Coding\*\* (Medium)

Which of the following code snippets is the correct way to establish a connection to a MySQL database using JDBC?

A)

import java.sql.Connection;

import java.sql.DriverManager;

public class DatabaseConnection {

public static void main(String[] args) {

Connection connection = DriverManager.getConnection("jdbc:mysql://localhost:3306/mydb", "username", "password");

}

}

B)

import java.sql.Connection;

import java.sql.DriverManager;

public class DatabaseConnection {

public static void main(String[] args) {

Connection connection = DriverManager.getConnection("jdbc:sqlite//mydb.db");

}

}

C)

import java.sql.Connection;

import java.sql.DriverManager;

public class DatabaseConnection {

public static void main(String[] args) {

Connection connection = DriverManager.getConnection("jdbc:mysql:mydb.db");

}

}

```

\*\*Answer : A)\*\*

\*\*Question 19: JDBC with Coding\*\* (Medium)

Which of the following statements is true regarding the `PreparedStatement` interface in JDBC?

A) `PreparedStatement` is precompiled at compile time.

B) `PreparedStatement` can't be used for executing SQL queries.

C) `PreparedStatement` is slower than `Statement` for executing the same query multiple times.

D) `PreparedStatement` helps prevent SQL injection.

\*\*Answer : D)\*\*

\*\*Question 20: Java Collections\*\* (Complex)

What is the primary difference between `ArrayList` and `CopyOnWriteArrayList` in Java?

A) `ArrayList` is synchronized, while `CopyOnWriteArrayList` is not.

B) `ArrayList` is a thread-safe collection, while `CopyOnWriteArrayList` is not.

C) `ArrayList` allows concurrent modifications, while `CopyOnWriteArrayList` does not.

D) `ArrayList` supports random access, while `CopyOnWriteArrayList` does not.

\*\*Answer : C)\*\*