Started on	Tuesday, 1 July 2025, 12:15 PM
State	Finished
Completed on	Tuesday, 1 July 2025, 12:34 PM
Time taken	19 mins 27 secs
Marks	41.00/50.00
Grade	**82.00** out of 100.00

Question 1
Complete

Mark 1.00 out of 1.00

What will be the result of the following code?

```
public class Test {
    public static void main(String[] args) {
        try {
            int x = 5 / 0;
        } catch (ArithmeticException e) {
            System.out.println("AE");
        } catch (Exception e) {
            System.out.println("E");
        }
    }
}
```

- ○ a.   E
- ○ b.   Compilation Error
- ○ c.   Runtime Exception
- ◉ d.   AE

Question 2

Complete

Mark 1.00 out of 1.00

What is the output of this program?

```
interface A {
    default void show() {
        System.out.println("A");
    }
}
class B implements A {
    public void show() {
        System.out.println("B");
    }
}
public class Test {
    public static void main(String[] args) {
        A obj = new B();
        obj.show();
    }
}
```

- ⦿ a. B
- ◯ b. A B
- ◯ c. A
- ◯ d. Compilation error

Question 3

Complete

Mark 0.00 out of 1.00

What is the result of this code?
```
let foo = {
  bar: function() {
    return this;
  }
};
let fn = foo.bar;
console.log(fn());
```

- ⦿ a. undefined
- ◯ b. foo
- ◯ c. window or global
- ◯ d. Error

Question 4
Complete
Mark 1.00 out of 1.00

What does the following output?

```
abstract class A {
    abstract void display();
    static void print() {
        System.out.println("Static in A");
    }
}
class B extends A {
    void display() {
        System.out.println("B");
    }
}
public class Test {
    public static void main(String[] args) {
        A.print();
        new B().display();
    }
}
```

- a.   Static in A
- b.   B Static in A
- c.   Static in A B
- d.   Compilation error

Question 5
Complete
Mark 0.00 out of 1.00

Consider two tables: orders(id, user_id) and users(id, name). Which query lists all users with or without orders?

- a.   LEFT JOIN
- b.   RIGHT JOIN
- c.   INNER JOIN
- d.   CROSS JOIN

Question 6

Complete

Mark 1.00 out of 1.00

What does the following query return?

SELECT COUNT(*) FROM employees WHERE hire_date BETWEEN '2023-01-01' AND '2023-12-31';

- ○ a. Total number of employees
- ○ b. Total number of departments
- ◉ c. Number of employees hired in 2023
- ○ d. Syntax error

Question 7

Complete

Mark 1.00 out of 1.00

What will this query return?

SELECT name,
  CASE
    WHEN salary > 50000 THEN 'High'
    WHEN salary BETWEEN 30000 AND 50000 THEN 'Medium'
    ELSE 'Low'
  END AS salary_band
FROM employees;

- ◉ a. Categorized salary levels
- ○ b. Only salary column
- ○ c. Only High salaries
- ○ d. Error due to ELSE

Question 8

Complete

Mark 1.00 out of 1.00

What is the output of the following string query?

SELECT LENGTH(TRIM(' Hello SQL '));

- ○ a. 10
- ◉ b. 9
- ○ c. 12
- ○ d. 11

Question 9

Complete

Mark 0.00 out of 1.00

What does this query return?

SELECT DATE_FORMAT(order_date, '%Y-%m') AS month, COUNT(*)
FROM orders
GROUP BY month;

- ○ a. Total orders
- ○ b. Orders grouped by year and month
- ◉ c. Syntax error
- ○ d. Orders by user

Question 10

Complete

Mark 1.00 out of 1.00

How does useContext improve performance over prop drilling?

- ○ a. By replacing all props with global variables
- ○ b. By preventing unnecessary re-renders
- ◉ c. By directly providing access to values without passing them down each level
- ○ d. By automatically memoizing values

Question 11

Complete

Mark 1.00 out of 1.00

In RBAC, how are permissions typically determined?

- ○ a. Based on user login count
- ◉ b. Based on assigned roles and the permissions those roles allow
- ○ c. Based on route paths
- ○ d. Based on user input

Question 12

Complete

Mark 1.00 out of 1.00

What is the output of the following code?
for (var i = 0; i < 3; i++) {

  setTimeout(() => console.log(i), 100);

}

- ○ a. 1 2 3
- ◉ b. 3 3 3
- ○ c. 0 0 0
- ○ d. 0 1 2

Question 13

Complete

Mark 0.00 out of 1.00

What will this code log?

```
let a = {};
let b = a;
a = null;
console.log(b);
```

○ a.   null

◉ b.   undefined

○ c.   {}

○ d.   ReferenceError

Question 14

Complete

Mark 1.00 out of 1.00

What will be the output?
console.log(typeof null);

○ a.   "null"

○ b.   "undefined"

◉ c.   "object"

○ d.   "null object"

Question 15

Complete

Mark 1.00 out of 1.00

What does this code output?

```
(async function() {
  return await 10;
})().then(console.log);
```

○ a.   undefined

○ b.   Error

◉ c.   10

○ d.   Promise { 10 }

Question 16

Complete

Mark 1.00 out of 1.00

What does this log?

console.log([...'hello']);

- ○ a. undefined
- ○ b. "hello"
- ○ c. TypeError
- ◉ d. ['h', 'e', 'l', 'l', 'o']

Question 17

Complete

Mark 1.00 out of 1.00

What happens if obj is a new object on every render and used in the useEffect dependency array?

```
useEffect(() => {
  console.log("effect ran");
}, [obj]);
```

- ○ a. It runs once only
- ○ b. It throws error
- ◉ c. It runs on every render
- ○ d. useEffect never runs

Question 18

Complete

Mark 1.00 out of 1.00

What is the output when useEffect sets count using setCount(count + 1) with an empty dependency array?

```
const [count, setCount] = useState(0);
useEffect(() => {
  setCount(count + 1);
}, []);
```

- ○ a. Renders infinitely
- ○ b. Skips the update
- ○ c. Throws error
- ◉ d. Sets count to 1 once

Question 19

Complete

Mark 1.00 out of 1.00

What is the correct way to navigate programmatically using useNavigate in React Router v6?
const navigate = useNavigate();

- ○ a. window.location = '/home'
- ○ b. navigate.push('/home')
- ○ c. history.push('/home')
- ◉ d. navigate('/home')

Question 20

Complete

Mark 1.00 out of 1.00

What does a JWT token contain in a secure application?

- ○ a. Plain text passwords
- ○ b. Only the username
- ○ c. Encrypted credentials
- ◉ d. Signed user claims like userID, roles

Question 21

Complete

Mark 1.00 out of 1.00

What does useMemo primarily help with in React?

- ○ a. To memoize components for faster rendering
- ○ b. To fetch data from APIs
- ○ c. To schedule updates after rendering
- ◉ d. To cache expensive computations between renders

Question 22

Complete

Mark 1.00 out of 1.00

What happens if run() is called directly instead of using start() on a Thread?

- ○ a. New thread starts
- ○ b. Thread is terminated
- ◉ c. Code runs in current thread
- ○ d. Error is thrown

Question 23

Complete

Mark 1.00 out of 1.00

What happens if two threads access a synchronized method?

- ○ a.   Both execute concurrently
- ○ b.   They create deadlock
- ◉ c.   One waits until the other finishes
- ○ d.   They throw exception

Question 24

Complete

Mark 1.00 out of 1.00

What happens when a thread is started twice using start()?

- ○ a.   Runs normally
- ○ b.   Creates duplicate thread
- ○ c.   Stops the thread
- ◉ d.   Throws IllegalThreadStateException

Question 25

Complete

Mark 1.00 out of 1.00

What happens when an exception is not caught in a method?

- ○ a.   Compilation error occurs
- ○ b.   The program continues normally
- ○ c.   JVM silently handles it
- ◉ d.   Exception is passed to the caller method

Question 26

Complete

Mark 0.00 out of 1.00

What happens when an exception is thrown in a thread's run() method?

- ○ a.   The thread restarts
- ◉ b.   The exception is logged automatically
- ○ c.   JVM halts
- ○ d.   The thread dies silently

Question 27

Complete

Mark 1.00 out of 1.00

What is a potential issue with using axios.get in useEffect without dependencies?

- ⦿ a. It may refetch on every render causing an infinite loop
- ○ b. Nothing, it's safe
- ○ c. It will fetch once
- ○ d. The component won't render

Question 28

Complete

Mark 1.00 out of 1.00

What is the difference between == and === in JavaScript?

- ○ a. == compares values and types; === compares only values
- ○ b. There is no difference
- ○ c. === is slower
- ⦿ d. == does type coercion; === does not

Question 29

Complete

Mark 1.00 out of 1.00

What is true about abstract classes?

- ○ a. They cannot have static methods
- ○ b. They can be instantiated using new
- ○ c. They must contain only abstract methods
- ⦿ d. They can have both abstract and concrete methods

Question 30

Complete

Mark 1.00 out of 1.00

What is true about finally block?

- ○ a. Never executes if there is an exception
- ⦿ b. Always executes even after return
- ○ c. Executes only when exception occurs
- ○ d. Executes only when catch is skipped

Question 31

Complete

Mark 1.00 out of 1.00

What's the main difference between fetch and axios in terms of error handling?

- ◉ a. axios throws for HTTP errors; fetch does not
- ○ b. Both handle errors the same way
- ○ c. fetch throws errors on HTTP errors automatically
- ○ d. axios requires manual error parsing

Question 32

Complete

Mark 1.00 out of 1.00

When should you prefer useReducer over useState?

- ◉ a. When state updates depend on previous state or are complex
- ○ b. When you need performance optimizations
- ○ c. When managing global state
- ○ d. Always, since it's newer

Question 33

Complete

Mark 1.00 out of 1.00

Which constraint enforces the relationship between two tables?

- ○ a. NOT NULL
- ○ b. UNIQUE
- ◉ c. FOREIGN KEY
- ○ d. CHECK

Question 34

Complete

Mark 1.00 out of 1.00

Which interface must be implemented to create a thread?

- ◉ a. Runnable
- ○ b. Callable
- ○ c. Threadable
- ○ d. Executor

Question 35

Complete

Mark 1.00 out of 1.00

Which is a feature of an abstract class?

○ a. Can have final methods

○ b. Must have default constructor

○ c. Cannot implement interfaces

○ d. Cannot extend another class

Question 36

Complete

Mark 1.00 out of 1.00

Which is true about interfaces in Java 8+?

○ a. Interfaces must have only abstract methods

○ b. Interfaces can have private static methods

○ c. Interfaces can have default and static methods

○ d. Interfaces can have constructors

Question 37

Complete

Mark 1.00 out of 1.00

Which JOIN returns all rows from the left table and matching rows from the right?

○ a. LEFT JOIN

○ b. FULL JOIN

○ c. RIGHT JOIN

○ d. INNER JOIN

Question 38

Complete

Mark 1.00 out of 1.00

Which keyword is used to handle multiple exceptions in a single catch block?

○ a. &

○ b. ,

○ c. finally

○ d. |

Question 39

Complete

Mark 1.00 out of 1.00

Which of the following is a correlated subquery?

- ⦿ a. Subquery using values from outer query row-by-row
- ○ b. Subquery with only constants
- ○ c. Subquery that runs only once
- ○ d. Subquery with GROUP BY

Question 40

Complete

Mark 0.00 out of 1.00

Which of the following is correct about Thread.sleep()?

- ⦿ a. Pauses thread and releases lock
- ○ b. Does not release the lock
- ○ c. Releases the lock on the object
- ○ d. Throws checked exception at runtime

Question 41

Complete

Mark 1.00 out of 1.00

Which of the following is TRUE about a PRIMARY KEY constraint?

- ○ a. A table can have multiple primary keys
- ⦿ b. Combines uniqueness and non-null constraints
- ○ c. Allows duplicates
- ○ d. Allows nulls

Question 42

Complete

Mark 1.00 out of 1.00

Which of the following is true about JavaScript closures?

- ○ a. They are only used in classes
- ⦿ b. They are functions with private variables
- ○ c. They cannot access outer scope variables
- ○ d. They only work with var

Question 43

Complete

Mark 0.00 out of 1.00

Which of the following methods is defined in the Thread class?

○ a.   start()

○ b.   execute()

○ c.   submit()

◉ d.   invoke()

Question 44

Complete

Mark 0.00 out of 1.00

Which of the following statements about `let` and `var` is TRUE?

○ a.   Both are block scoped

○ b.   var cannot be re-declared in the same scope

◉ c.   var is block scoped while let is function scoped

○ d.   let declarations are hoisted but not initialized

Question 45

Complete

Mark 0.00 out of 1.00

Which of the following will compile and run without error?

○ a.   A try block without catch/finally

○ b.   An abstract class without any abstract method

◉ c.   A thread without a run() method

○ d.   An interface with instance variables

Question 46

Complete

Mark 1.00 out of 1.00

Which of these can an interface contain in Java 8+?

○ a.   Constructors

○ b.   Private variables

◉ c.   Static methods

○ d.   Instance fields

Question 47

Complete

Mark 1.00 out of 1.00

Which of these is not a checked exception?

○ a. ArithmeticException
○ b. IOException
○ c. SQLException
○ d. FileNotFoundException

Question 48

Complete

Mark 1.00 out of 1.00

Which option correctly describes JavaScript's event loop?

○ a. It blocks until all I/O is done
○ b. It handles async code before sync code
○ c. It runs only setInterval and setTimeout
○ d. It executes synchronous code, then processes the callback queue

Question 49

Complete

Mark 1.00 out of 1.00

Which SQL clause is used with GROUP BY to filter aggregated results?

○ a. LIMIT
○ b. HAVING
○ c. ORDER BY
○ d. WHERE

Question 50

Complete

Mark 1.00 out of 1.00

Which statement is true about Callable?

○ a. It returns a value and can throw exceptions
○ b. It returns void
○ c. It is not part of Java standard
○ d. It must be used with Runnable