

Started on	Wednesday, 2 July 2025, 10:12 AM
State	Finished
Completed on	Wednesday, 2 July 2025, 10:26 AM
Time taken	13 mins 43 secs
Marks	49.00/50.00
Grade	98.00 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. AE
- ☐ b. Runtime Exception
- ☐ c. E
- ☐ d. Compilation Error

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. Compilation error
- ☒ b. B
- ☐ c. A B
- ☐ d. A

Question 3

Complete

Mark 1.00 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. foo
- ☐ b. Error
- ☐ c. undefined
- ☒ d. window or global

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. B Static in A
- ☐ b. Compilation error
- ☐ c. Static in A
- ☒ d. Static in A B

Question 5

Complete

Mark 1.00 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. CROSS JOIN
- ☐ b. INNER JOIN
- ☐ c. RIGHT JOIN
- ☒ d. LEFT 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. Only salary column
- ☐ b. Only High salaries
- ☐ c. Error due to ELSE
- ☒ d. Categorized salary levels

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 1.00 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. Orders by user
- ☐ d. Syntax error

Question 10

Complete

Mark 1.00 out of 1.00

How does useContext improve performance over prop drilling?

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

Question 11

Complete

Mark 1.00 out of 1.00

In RBAC, how are permissions typically determined?

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

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. 0 0 0
- ☐ c. 0 1 2
- ☒ d. 3 3 3

Question 13

Complete

Mark 1.00 out of 1.00

What will this code log?

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

- ☐ a. ReferenceError
- ☐ b. null
- ☐ c. undefined
- ☒ d. {}

Question 14

Complete

Mark 1.00 out of 1.00

What will be the output?

```
console.log(typeof null);
```

- ☐ a. "null object"
- ☐ b. "undefined"
- ☒ c. "object"
- ☐ d. "null"

Question 15

Complete

Mark 1.00 out of 1.00

What does this code output?

```
(async function() {  
  return await 10;  
})();
```

- ☒ a. 10
- ☐ b. Promise { 10 }
- ☐ c. Error
- ☐ d. undefined

Question 16

Complete

Mark 1.00 out of 1.00

What does this log?

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

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

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. useEffect never runs
- ☐ b. It throws error
- ☐ c. It runs once only
- ☒ d. It runs on every render

Question 18

Complete

Mark 0.00 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. Throws error
- ☒ b. Skips the update
- ☐ c. Sets count to 1 once
- ☐ d. Renders infinitely

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. `history.push('/home')`
- ☐ b. `window.location = '/home'`
- ☒ c. `navigate('/home')`
- ☐ d. `navigate.push('/home')`

Question 20

Complete

Mark 1.00 out of 1.00

What does a JWT token contain in a secure application?

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

Question 21

Complete

Mark 1.00 out of 1.00

What does `useMemo` primarily help with in React?

- ☐ a. To schedule updates after rendering
- ☐ b. To memoize components for faster rendering
- ☐ c. To fetch data from APIs
- ☒ 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. Error is thrown
- ☐ b. New thread starts
- ☐ c. Thread is terminated
- ☒ d. Code runs in current thread

Question 23

Complete

Mark 1.00 out of 1.00

What happens if two threads access a synchronized method?

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

Question 24

Complete

Mark 1.00 out of 1.00

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

- ☒ a. Throws `IllegalThreadStateException`
- ☐ b. Stops the thread
- ☐ c. Runs normally
- ☐ d. Creates duplicate thread

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. Exception is passed to the caller method
- ☐ c. JVM silently handles it
- ☐ d. The program continues normally

Question 26

Complete

Mark 1.00 out of 1.00

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

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

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. It will fetch once
- ☐ c. The component won't render
- ☐ d. Nothing, it's safe

Question 28

Complete

Mark 1.00 out of 1.00

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

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

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 have both abstract and concrete methods
- ☐ c. They can be instantiated using `new`
- ☐ d. They must contain only abstract methods

Question 30

Complete

Mark 1.00 out of 1.00

What is true about `finally` block?

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

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. axios requires manual error parsing
- ☐ c. fetch throws errors on HTTP errors automatically
- ☐ d. Both handle errors the same way

Question 32

Complete

Mark 1.00 out of 1.00

When should you prefer useReducer over useState?

- ☐ a. When managing global state
- ☒ b. When state updates depend on previous state or are complex
- ☐ c. When you need performance optimizations
- ☐ 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. FOREIGN KEY
- ☐ b. UNIQUE
- ☐ c. NOT NULL
- ☐ 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. Cannot implement interfaces
- ☐ b. Cannot extend another class
- ☐ c. Must have default constructor
- ☒ d. Can have final methods

Question 36

Complete

Mark 1.00 out of 1.00

Which is true about interfaces in Java 8+?

- ☐ a. Interfaces can have private static methods
- ☐ b. Interfaces can have constructors
- ☐ c. Interfaces must have only abstract methods
- ☒ d. Interfaces can have default and static methods

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. INNER JOIN
- ☐ c. FULL JOIN
- ☐ d. RIGHT 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. finally
- ☒ c. |
- ☐ d. ,

Question 39

Complete

Mark 1.00 out of 1.00

Which of the following is a correlated subquery?

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

Question 40

Complete

Mark 1.00 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. Allows nulls
- ☒ b. Combines uniqueness and non-null constraints
- ☐ c. Allows duplicates
- ☐ d. A table can have multiple primary keys

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 only work with var
- ☐ d. They cannot access outer scope variables

Question 43

Complete

Mark 1.00 out of 1.00

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

- ☒ a. start()
- ☐ b. submit()
- ☐ c. execute()
- ☐ d. invoke()

Question 44

Complete

Mark 1.00 out of 1.00

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

- ☐ a. var cannot be re-declared in the same scope
- ☐ b. Both are block scoped
- ☐ c. var is block scoped while let is function scoped
- ☒ d. let declarations are hoisted but not initialized

Question 45

Complete

Mark 1.00 out of 1.00

Which of the following will compile and run without error?

- ☐ a. An interface with instance variables
- ☒ b. An abstract class without any abstract method
- ☐ c. A thread without a run() method
- ☐ d. A try block without catch/finally

Question 46

Complete

Mark 1.00 out of 1.00

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

- ☐ a. Constructors
- ☐ b. Instance fields
- ☐ c. Private variables
- ☒ d. Static methods

Question 47

Complete

Mark 1.00 out of 1.00

Which of these is not a checked exception?

- ☐ a. FileNotFoundException
- ☒ b. ArithmeticException
- ☐ c. SQLException
- ☐ d. IOException

Question 48

Complete

Mark 1.00 out of 1.00

Which option correctly describes JavaScript's event loop?

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

Question 49

Complete

Mark 1.00 out of 1.00

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

- ☐ a. WHERE
- ☐ b. ORDER BY
- ☒ c. HAVING
- ☐ d. LIMIT

Question 50

Complete

Mark 1.00 out of 1.00

Which statement is true about Callable?

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