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Question 1

Not yet answered

Once connection has been re-established, your responses should be saved and this message will disappear.

Marked out of 1.00

Which data structure allows both LIFO and FIFO operations efficiently?

- ☐ a. HashMap
- ☐ b. Queue
- ☒ c. Deque
- ☐ d. Stack

Question 2

Answer saved

Marked out of 1.00

Which statement about Java constructor overloading is correct?

- ☐ a. A constructor can return a value
- ☐ b. Java does not allow constructor overloading
- ☐ c. Two constructors in the same class cannot have the same number of parameters
- ☒ d. A constructor can call another constructor using this()

Question 3

Not yet answered

Marked out of 1.00

Identify the error in this lambda expression usage:

```
import java.util.function.Predicate;
```

```
public class Test {  
    public static void main(String[] args) {  
        Predicate<String> p = (String s) -> { return s.length() > 3; };  
        System.out.println(p.test("Java"));  
    }  
}
```

- ☐ a. Runtime exception
- ☐ b. Compilation error
- ☒ c. No error
- ☐ d. Infinite loop

Question 4

Not yet answered

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Which of the following is TRUE about lambda expressions in Java?

- ☐ a. They must be inside a method
- ☐ b. They must have a return type
- ☒ c. They can be assigned to a functional interface reference
- ☐ d. They can access instance variables but not local variables

Question 5

Answer saved

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What is the best-case time complexity of QuickSort?

- ☐ a. $O(n)$
- ☐ b. $O(\log n)$
- ☒ c. $O(n \log n)$
- ☐ d. $O(n^2)$

Question 6

Answer saved

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Which traversal method will print the values of a Binary Search Tree in sorted order?

- ☐ a. Postorder
- ☒ b. Inorder
- ☐ c. Preorder
- ☐ d. Level Order

Question 7

Answer saved

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What will be the output of this SQL query?

```
SELECT name FROM students
```

```
WHERE id NOT IN (SELECT student_id FROM grades);
```

- ☐ a. All student names
- ☐ b. Names of students who have at least one grade
- ☒ c. Names of students who do not have a grade
- ☐ d. Error in query

Question 8

Not yet answered

Marked out of 1.00

Which of the following is a valid use of the Predicate functional interface?

- ☐ a. Predicate $p = n \rightarrow \text{return } n > 0;$
- ☐ b. Predicate<Integer> $p = (n) \rightarrow \{ \text{return } n > 0 \}$
- ☒ c. Predicate<Integer> $p = (n) \rightarrow n > 0;$
- ☐ d. Predicate<Integer> $p = (\text{int } n) \rightarrow \text{return } n > 0;$

Question 9

Answer saved

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What does the following SQL query do?

```
DELETE FROM employees
```

```
WHERE id IN (SELECT id FROM employees WHERE salary < 30000);
```

- ☐ a. Deletes all employees
- ☐ b. Throws an error
- ☐ c. Selects employees with salary less than 30,000 but does not delete
- ☒ d. Deletes employees earning less than 30,000

Question 10

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What does the following SQL query do?

```
SELECT department, AVG(salary)
FROM employees
GROUP BY department
HAVING AVG(salary) > 50000;
```

- ☐ a. Filters departments before grouping
- ☒ b. Displays only departments where the average salary is greater than 50,000
- ☐ c. Syntax error
- ☐ d. Selects all departments and filters those with salary greater than 50,000

Question 11

Not yet answered

Marked out of 1.00

Which of the following operations has the same time complexity in both Binary Search Tree (BST) and Hash Table?

- ☒ a. None of the above
- ☐ b. Search
- ☐ c. Delete
- ☐ d. Insert

Question 12

Not yet answered

Marked out of 1.00

Which of the following is the most efficient data structure for priority queue implementation?

- ☐ a. BST
- ☒ b. Binary Heap
- ☐ c. Linked List
- ☐ d. Stack

Question 13

Not yet answered

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Which SQL query finds the second highest salary from an employees table?

- ☒ a. All of the above
- ☐ b. `SELECT salary FROM employees ORDER BY salary DESC LIMIT 1,1;`
- ☐ c. `SELECT salary FROM (SELECT salary, RANK() OVER (ORDER BY salary DESC) r FROM employees) WHERE r = 2;`
- ☐ d. `SELECT MAX(salary) FROM employees WHERE salary < (SELECT MAX(salary) FROM employees);`

Question 14

Not yet answered

Marked out of 1.00

What will be the output of the following SQL query?

`SELECT COUNT(*), COUNT(column_name) FROM employees;`

- ☒ a. `COUNT(*)` includes NULL values, while `COUNT(column_name)` ignores them
- ☐ b. Syntax error
- ☐ c. `COUNT(*)` ignores NULL values, while `COUNT(column_name)` includes them
- ☐ d. Both return the same count

Question 15

Not yet answered

Marked out of 1.00

What will be the output of the following code?

```
import java.util.function.Predicate;

public class Test {

    public static void main(String[] args) {

        Predicate<Integer> isEven = x -> x % 2 == 0;

        System.out.println(isEven.test(7));

    }

}
```

- ☐ a. Compilation Error
- ☐ b. Runtime Exception
- ☐ c. True
- ☒ d. False

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