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State	Finished
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Time taken	14 mins 3 secs
Marks	8.00/15.00
Grade	53.33 out of 100.00

Question 1

Complete

Mark 0.00 out of 1.00

```
public class Test {  
    public static void main(String[] args) {  
        int x = 5;  
        int y = x++;  
        int z = ++x;  
        System.out.println(x + " " + y + " " + z);  
    }  
}
```

What is the result?

- ☐ a. 7 5 6
- ☐ b. 6 5 6
- ☐ c. 5 5 6
- ☒ d. 7 5 7

ans: d

Question 2

Complete

Mark 1.00 out of
1.00

-- Table1: (1, Red), (2, Blue), (3, Green)

-- Table2: (4, Red), (5, Blue), (6, Yellow)

How many rows do these queries return?

Query A:

SELECT color FROM Table1

UNION

SELECT color FROM Table2;

Query B:

SELECT color FROM Table1

UNION ALL

SELECT color FROM Table2;

What are the results?

- ☐ a. Query A = 6 rows, Query B = 4 rows
- ☒ b. Query A = 4 rows, Query B = 6 rows
- ☐ c. Query A = 4 rows, Query B = 4 rows
- ☐ d. Query A = 6 rows, Query B = 6 rows

Question 3

Complete

Mark 1.00 out of 1.00

```
CREATE TABLE Students (  
    student_id INT,  
    name VARCHAR(50),  
    score INT,  
    class VARCHAR(10)  
);
```

```
-- Data:
```

```
-- (1, John, 85, A), (2, Alice, 90, A)
```

```
-- (3, Bob, 75, B), (4, Carol, 80, B)
```

What does this query return?

```
SELECT name, score, class
```

```
FROM Students s1
```

```
WHERE score > (SELECT AVG(score) FROM Students s2 WHERE s2.class = s1.class);
```

- ☐ a. All students
- ☐ b. John and Carol
- ☐ c. No students
- ☒ d. Alice and Carol

Question 4

Complete

Mark 0.00 out of 1.00

```
CREATE TABLE Employees (  
    emp_id INT,  
    emp_name VARCHAR(50),  
    manager_id INT  
);
```

```
-- Data:
```

```
-- (1, Alice, NULL)  -- Alice is top manager
```

```
-- (2, Bob, 1)      -- Bob reports to Alice
```

```
-- (3, Charlie, 1)  -- Charlie reports to Alice
```

```
-- (4, David, 2)    -- David reports to Bob
```

How many rows does this query return?

```
SELECT e1.emp_name as Employee, e2.emp_name as Manager  
FROM Employees e1  
INNER JOIN Employees e2 ON e1.manager_id = e2.emp_id;
```

ans:a

- ☐ a. 3 rows
- ☒ b. 2 rows
- ☐ c. 1 row
- ☐ d. 4 rows

Question 5

Complete

Mark 0.00 out of 1.00

```
-- Sales table has 5 rows:
```

```
-- (1, 100), (2, NULL), (3, 200), (4, NULL), (5, 300)
```

What do these queries return?

```
-- Query A
```

```
SELECT COUNT(*) FROM Sales;
```

```
-- Query B
```

```
SELECT COUNT(amount) FROM Sales;
```

ans: d

```
-- Query C
```

```
SELECT SUM(amount) FROM Sales;
```

What are the results?

- ☐ a. A=5, B=3, C=NULL
- ☐ b. A=5, B=5, C=600
- ☒ c. A=3, B=3, C=600
- ☐ d. A=5, B=3, C=600

Question 6

Complete

Mark 0.00 out of
1.00

```
public class Test {  
    public static void main(String[] args) {  
        String str1 = "Java";  
        String str2 = "Java";  
        String str3 = new String("Java");  
  
        System.out.println(str1 == str2);  
        System.out.println(str1 == str3);  
        System.out.println(str1.equals(str3));  
    }  
}
```

What is the result?

ans: d

- ☒ a. false false true
- ☐ b. true false false
- ☐ c. true true true
- ☐ d. true false true

Question 7

Complete

Mark 1.00 out of 1.00

```
CREATE TABLE Products (  
    product_id INT,  
    category VARCHAR(20),  
    price DECIMAL(10,2)  
);
```

```
-- Data:
```

```
-- (1, Electronics, 500), (2, Electronics, 800)
```

```
-- (3, Clothing, 50), (4, Clothing, 75)
```

```
-- (5, Books, 20)
```

Question: Which queries return one row per category (3 rows total)?

Choice 1:

```
SELECT category FROM Products;
```

Choice 2:

```
SELECT DISTINCT category FROM Products ORDER BY category;
```

Choice 3:

```
SELECT category FROM Products GROUP BY category;
```

Choice 4:

```
SELECT category, COUNT(*) FROM Products GROUP BY category;
```

- ☐ a. Choice 2 and 3
- ☒ b. Choice 2, 3, and 4
- ☐ c. Choice 1 and 2
- ☐ d. All choices

Question 8

Complete

Mark 1.00 out of 1.00

```
javapublic class Test { public static void main(String[] args) { for(int i = 0; i < 3; i++) { for(int j = 0; j < 2;  
j++) { System.out.print(i + j + " "); } } } } What is the result?
```

- ☐ a. 1 2 2 3 3 4
- ☒ b. 0 1 1 2 2 3
- ☐ c. Compilation fails
- ☐ d. 0 1 0 1 0 1

Question 9

Complete

Mark 1.00 out of 1.00

```
import java.util.*;
```

```
public class Test {  
    public static void main(String[] args) {  
        LinkedList<String> list = new LinkedList<>();  
        list.add("A");  
        list.add("B");  
        list.add("C");  
        list.add("D");  
        list.removeFirst();  
        list.removeLast();  
        list.addFirst("X");  
        System.out.println(list);  
    }  
}
```

What is the result?

- ☐ a. [B, C, X]
- ☒ b. [X, B, C]
- ☐ c. [A, B, C, X]
- ☐ d. [X, A, B, C]

Question 10

Complete

Mark 0.00 out of 1.00

```
public class Test {  
    private int value = 10;  
  
    public void setValue(int value) {  
        value = value;  
    }  
  
    public static void main(String[] args) {  
        Test obj = new Test();  
        obj.setValue(20);  
        System.out.println(obj.value);  
    }  
}
```

What is the result?

- ☐ a. 10
- ☐ b. Compilation fails
- ☒ c. 20
- ☐ d. 0

ans: a
this.value doesnt modify the instance variable,
concept used = shadowing

Question 11

Complete

Mark 0.00 out of
1.00

```
import java.util.*;
```

```
public class Test {  
    public static void main(String[] args) {  
        HashMap<String, Integer> map = new HashMap<>();  
        map.put("X", 10);  
        map.put("Y", 20);  
        map.put("Z", 30);  
        map.put("X", map.get("X") + 5);  
        map.remove("Y");  
        System.out.println(map.get("X") + " " + map.size());  
    }  
}
```

What is the result?

- ☐ a. 10 and 3
- ☐ b. 10 and 2
- ☐ c. 15 and 2
- ☒ d. 15 and 3

ans: c

Question 12

Complete

Mark 1.00 out of 1.00

```
class Animal {  
    public void makeSound() {  
        System.out.println("Animal sound");  
    }  
}
```

```
class Dog extends Animal {  
    public void makeSound() {  
        System.out.println("Bark");  
    }  
}
```

```
public class Test {  
    public static void main(String[] args) {  
        Animal a = new Dog();  
        a.makeSound();  
    }  
}
```

What is the result?

- ☐ a. Compilation fails
- ☐ b. An exception is thrown at runtime
- ☐ c. Animal sound
- ☒ d. Bark

Question 13

Complete

Mark 1.00 out of 1.00

```
import java.util.*;
```

```
public class Test {  
    public static void main(String[] args) {  
        ArrayList<Integer> list = new ArrayList<>();  
        list.add(10);  
        list.add(20);  
        list.add(30);  
        list.add(1, 15);  
        list.remove(Integer.valueOf(20));  
        System.out.println(list);  
    }  
}
```

What is the result?

- ☐ a. [15, 30]
- ☐ b. [10, 30]
- ☒ c. [10, 15, 30]
- ☐ d. [10, 15, 20, 30]

Question 14

Complete

Mark 0.00 out of 1.00

```
import java.util.*;
```

```
public class Test {  
    public static void main(String[] args) {  
        Queue<Integer> queue = new LinkedList<>();  
        queue.offer(10);  
        queue.offer(20);  
        queue.offer(30);  
        queue.poll();  
        queue.offer(40);  
        queue.poll();  
        System.out.println(queue);  
    }  
}
```

ans: c

What is the result?

- ☐ a. [20, 30, 40]
- ☒ b. [10, 20]
- ☐ c. [30, 40]
- ☐ d. [40]

Question 15

Complete

Mark 1.00 out of
1.00

```
import java.util.*;
```

```
public class Test {  
    public static void main(String[] args) {  
        Stack<Integer> stack = new Stack<>();  
        stack.push(5);  
        stack.push(10);  
        stack.push(15);  
        stack.pop();  
        stack.push(20);  
        stack.push(25);  
        stack.pop();  
        System.out.println(stack.peek() + " " + stack.size());  
    }  
}
```

What is the result?

- ☐ a. 15 and 3
- ☐ b. 25 and 4
- ☒ c. 20 and 3
- ☐ d. 10 and 2