

Started on Wednesday, 19 March 2025, 2:32 PM**State** Finished**Completed on** Wednesday, 19 March 2025, 2:42 PM**Time taken** 9 mins 45 secs**Marks** 18.00/20.00**Grade** 90.00 out of 100.00**Question 1**

Complete

Mark 1.00 out of 1.00

What is the result of the following code?

```
int[] myArray = {1, 2, 3};
```

```
myArray[1] = 4;
```

```
System.out.println(myArray[1]);
```

- ☐ a. 3
- ☐ b. 1
- ☒ c. 4
- ☐ d. 2

Question 2

Complete

Mark 1.00 out of 1.00

How do you access the third element in an array in Java?

- ☐ a. myArray(3)
- ☐ b. myArray(2)
- ☐ c. myArray[3]
- ☒ d. myArray[2]

Question 3

Complete

Mark 1.00 out of 1.00

Which of the following tree traversal methods gives nodes in non-decreasing order in a Binary Search Tree (BST)?

- ☐ a. Level-order
- ☐ b. Post-order
- ☒ c. In-order
- ☐ d. Pre-order

Question 4

Complete

Mark 1.00 out of 1.00

In a directed graph, what is a cycle called where all vertices are distinct?

- ☐ a. Bipartite cycle
- ☒ b. Hamiltonian cycle
- ☐ c. Eulerian cycle
- ☐ d. Simple cycle

Question 5

Complete

Mark 0.00 out of 1.00

Which is the correct way to declare a constant in Java?

- ☒ a. `static final int x = 10;`
- ☐ b. `final int x = 10;`
- ☐ c. `constant int x = 10;`
- ☐ d. `constant final int x = 10;`

Question 6

Complete

Mark 0.00 out of 1.00

What is the result of the following code?

```
int[] arr1 = {1, 2, 3};
```

```
int[] arr2 = arr1;
```

```
arr2[0] = 4;
```

```
System.out.println(arr1[0]);
```

- ☐ a. 2
- ☐ b. 3
- ☐ c. 4
- ☒ d. 1

Question 7

Complete

Mark 1.00 out of 1.00

What is the purpose of the `new` keyword in Java?

- ☐ a. To create a new instance of a class
- ☐ b. To allocate memory for an object
- ☒ c. All of the above
- ☐ d. To initialize an array

Question 8

Complete

Mark 1.00 out of 1.00

Which of the following operations is not possible on a stack?

- ☐ a. Pop
- ☐ b. Peek
- ☐ c. Push
- ☒ d. Enqueue

Question 9

Complete

Mark 1.00 out of 1.00

How do you break out of a loop in Java?

- ☐ a. exit
- ☒ b. break
- ☐ c. stop
- ☐ d. end

Question 10

Complete

Mark 1.00 out of 1.00

What is the result of $5 / 2$ in Java?

- ☐ a. 2.0
- ☐ b. 2.5
- ☐ c. Error
- ☒ d. 2

Question 11

Complete

Mark 1.00 out of 1.00

What is the result of the following code?

```
int x = 5;
```

```
System.out.println(x++ + ++x);
```

- ☐ a. 10
- ☒ b. 12
- ☐ c. 13
- ☐ d. 11

Question 12

Complete

Mark 1.00 out of 1.00

What is the main advantage of using a Doubly Linked List over a Singly Linked List?

- ☒ a. Traversal in both directions is possible
- ☐ b. Doubly Linked List requires less memory
- ☐ c. Faster deletion
- ☐ d. It is easier to implement

Question 13

Complete

Mark 1.00 out of 1.00

What is the purpose of the `continue` statement in Java?

- ☐ a. Ends the loop
- ☒ b. Skips the rest of the code in the loop and starts the next iteration
- ☐ c. Restarts the loop from the beginning
- ☐ d. None of the above

Question 14

Complete

Mark 1.00 out of 1.00

Which of the following data structures is used to implement recursion in Java?

- ☐ a. Array
- ☒ b. Stack
- ☐ c. Queue
- ☐ d. Linked List

Question 15

Complete

Mark 1.00 out of 1.00

What is the output of the following code?

```
for (int i = 0; i < 5; i++) {  
    if (i == 2) {  
        continue;  
    }  
    System.out.print(i + " ");  
}
```

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

Question 16

Complete

Mark 1.00 out of 1.00

What is the result of the following code?

```
String str = "Hello";  
str.concat(", World!");  
System.out.println(str);
```

- ☐ a. Hello, World!
- ☐ b. Runtime Error
- ☐ c. , World!
- ☒ d. Hello

Question 17

Complete

Mark 1.00 out of 1.00

What is the default value of an instance variable in Java?

- ☐ a. false
- ☐ b. null
- ☒ c. Depends on the data type
- ☐ d. 0

Question 18

Complete

Mark 1.00 out of 1.00

In Java, which of the following is the most efficient data structure for retrieving data in constant time (on average)?

- ☒ a. HashMap
- ☐ b. PriorityQueue
- ☐ c. TreeMap
- ☐ d. LinkedList

Question 19

Complete

Mark 1.00 out of 1.00

How do you find the length of an array in Java?

- ☐ a. length(myArray)
- ☐ b. myArray.length()
- ☐ c. myArray.size()
- ☒ d. myArray.length

Question 20

Complete

Mark 1.00 out of 1.00

What is the primary difference between a LinkedList and an ArrayList in Java?

- ☒ a. LinkedList uses nodes and pointers, while ArrayList uses an array
- ☐ b. LinkedList uses a singly linked list, while ArrayList uses a static array
- ☐ c. LinkedList uses a dynamic array, while ArrayList uses a doubly linked list
- ☐ d. ArrayList stores objects, while LinkedList only stores primitive data types