

Network connection lost. (Autosave failed).

Make a note of any responses entered on this page in the last few minutes, then try to re-connect.

Question 1

Answer saved

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

Marked out of 1.00

What does the following function do?

```
void function(Node head) {  
    Node temp = head;  
    while (temp != null) {  
        System.out.print(temp.data + " ");  
        temp = temp.next;  
    }  
}
```

- ☐ a. Causes an infinite loop
- ☐ b. Reverses the linked list
- ☐ c. Deletes all nodes in the linked list
- ☒ d. Prints the linked list

Question 2

Answer saved

Marked out of 1

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What will be the output of the following code?

```
class Node {  
    int data;  
    Node next;  
    Node(int data) { this.data = data; this.next = null; }  
}
```

```
public class LinkedListTest {  
    public static void main(String[] args) {  
        Node head = new Node(10);  
        head.next = new Node(20);  
        head.next.next = new Node(30);  
        System.out.println(head.next.next.data);  
    }  
}
```

- ☐ a. 20
- ☒ b. 30
- ☐ c. Compilation Error
- ☐ d. 10

Question 3

Answer saved

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Given:

```
class Hexy {  
    public static void main(String[] args) {  
        Integer i = 42;  
        String s = (i < 40) ? "life": (i > 50) ? "universe": "everything";  
        System.out.println(s);  
    }  
}
```

What is the result?

- ☐ a. An exception is thrown at runtime
- ☐ b. life
- ☒ c. everything
- ☐ d. universe
- ☐ e. null
- ☐ f. Compilation fails

Question 4

Answer saved

Marked out of 1.00

What is the output of the following code?

```
public class GCExample {  
    public static void main(String[] args) {  
        String str = new String("Hello");  
        str = null;  
        System.gc();  
        System.out.println("End of main");  
    }  
}
```

- ☐ a. "Hello" will be printed
- ☐ b. NullPointerException
- ☐ c. Unpredictable output
- ☒ d. "End of main" will be printed

Question 5

Answer saved

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Given:

```
3. public class Theory {  
4.     public static void main(String[] args) {  
5.         String s1 = "abc";  
6.         String s2 = s1;  
7.         s1 += "d";  
8.         System.out.println(s1 + " " + s2 + " " + (s1==s2));  
9.  
10.        StringBuffer sb1 = new StringBuffer("abc");  
11.        StringBuffer sb2 = sb1;  
12.        sb1.append("d");  
13.        System.out.println(sb1 + " " + sb2 + " " + (sb1==sb2));  
14.    }  
15. }
```

Which are true? (Choose all that apply.)

- ☐ a. The second line of output is abcd abcd false
- ☐ b. The first line of output is abc abc true
- ☒ c. The first line of output is abcd abc false
- ☐ d. Compilation fails
- ☒ e. The second line of output is abcd abcd true
- ☐ f. The first line of output is abc abc false
- ☐ g. The second line of output is abcd abc false

Question 6

Answer saved

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What will be the output of this jagged array code?

```
public class Test {  
    public static void main(String[] args) {  
        int[][] arr = new int[3][];  
        arr[0] = new int[2];  
        arr[1] = new int[3];  
        arr[2] = new int[1];  
        System.out.println(arr.length + " " + arr[1].length);  
    }  
}
```

- ☐ a. Runtime error
- ☒ b. 3 3
- ☐ c. 3 2
- ☐ d. Compilation error

Question 7

Answer saved

Marked out of 1

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Which of the following objects is eligible for garbage collection after m1() executes?

```
class A {  
    int data;  
}
```

```
public class Test {  
    static void m1() {  
        A a1 = new A();  
        A a2 = new A();  
        a1 = a2;  
    }  
}
```

```
public static void main(String[] args) {  
    m1();  
    System.gc();  
}
```

- ☐ a. The second A object
- ☐ b. None
- ☒ c. The first A object
- ☐ d. Both A objects

Question 8

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Answer saved

Marked out of 1

Make a note of any responses entered on this page in the last few minutes, then try to re-connect.

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What will be the output of this BST search function if the target is 7?

```
boolean search(Node root, int key) {  
    if (root == null) return false;  
    if (root.data == key) return true;  
    if (key < root.data) return search(root.left, key);  
    return search(root.right, key);  
}
```

Given the BST:

```
10  
/  
5 15  
/  
2 7 20
```

- ☐ a. Compilation error
- ☐ b. None of the above
- ☐ c. false
- ☒ d. true

Question 9

Answer saved

Marked out of 1.00

What does this function do?

```
int height(Node root) {  
    if (root == null) return 0;  
    return 1 + Math.max(height(root.left), height(root.right));  
}
```

- ☒ a. Returns the height of the BST
- ☐ b. Returns the number of nodes in the BST
- ☐ c. Performs a level-order traversal
- ☐ d. Finds the depth of the left subtree

Question 10

Answer saved

Marked out of 1

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What will be the output of the following Java code?

```
class Node {  
    int data;  
    Node next;  
    Node(int data) { this.data = data; this.next = null; }  
}
```

```
public class Test {  
    public static void main(String[] args) {  
        Node head = new Node(10);  
        head.next = head;  
        System.out.println(head.next.data);  
    }  
}
```

- ☐ a. Runtime Error
- ☒ b. 10
- ☐ c. Compilation Error
- ☐ d. Infinite Loop

Question 11

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What will be the output of the following code?

```
public class ArrayExample {  
    public static void main(String[] args) {  
        int[] arr = {1, 2, 3, 4, 5};  
        for (int i = 0; i < arr.length; i++) {  
            arr[i] = arr[(i + 3) % arr.length];  
        }  
        for (int num : arr) {  
            System.out.print(num + " ");  
        }  
    }  
}
```

- ☒ a. 4 5 4 5 4
- ☐ b. 3 4 5 1 2
- ☐ c. 4 5 1 2 3
- ☐ d. None of the above

Question 12

Answer saved

Marked out of 1

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What does the following function return?

```
class Node {  
    int data;  
    Node left, right;  
    Node(int data) { this.data = data; left = right = null; }  
}
```

```
int findMin(Node root) {  
    if (root == null) return -1;  
    while (root.left != null) {  
        root = root.left;  
    }  
    return root.data;  
}  
'''
```

- ☒ a. The minimum value in the BST
- ☐ b. Always returns -1
- ☐ c. The maximum value in the BST
- ☐ d. The root node's value

Question 13

Not yet answered

Marked out of 1

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Given:

```
class TKO {  
    public static void main(String[] args) {  
        String s = "-";  
        Integer x = 343;  
        long L343 = 343L;  
        if(x.equals(L343)) s += ".e1 ";  
        if(x.equals(343)) s += ".e2 ";  
        Short s1 = (short)((new Short((short)343)) / (new Short((short)49)));  
        if(s1 == 7) s += "=s ";  
        if(s1 < new Integer(7+1)) s += "fly ";  
        System.out.println(s);  
    }  
}
```

Which of the following will be included in the output String s? (Choose all that apply.)

- ☐ a. An exception is thrown at runtime
- ☒ b. fly
- ☐ c. Compilation fails
- ☐ d. None of the above
- ☒ e. =s
- ☐ f. .e1
- ☒ g. .e2

Question 14

Not yet answered

Marked out of 1

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What happens when an object becomes unreachable?

```
class Test {  
    int x;  
    Test(int x) { this.x = x; }  
}
```

```
public class GCExample {  
    public static void main(String[] args) {  
        Test t1 = new Test(10);  
        Test t2 = new Test(20);  
        t1 = t2; // Line 1  
        System.gc();  
    }  
}
```

- ☐ a. t1 and t2 will both be garbage collected
- ☐ b. No objects will be garbage collected
- ☒ c. The object containing 10 will be garbage collected
- ☐ d. The object containing 20 will be garbage collected

Question 15

Not yet answered

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What will be the output of this inorder traversal function?

```
void inorder(Node root) {  
    if (root == null) return;  
    inorder(root.left);  
    System.out.print(root.data + " ");  
    inorder(root.right);  
}
```

If the BST has the following structure:

```
5  
/\   
3 7  
/\ \   
2 4 8  
...
```

- ☐ a. 8 7 5 4 3 2
- ☒ b. 2 3 4 5 7 8
- ☐ c. 5 7 8 3 2 4
- ☐ d. 5 3 2 4 7 8