

## Questions

Listed below are some questions for you to practice with garbage collection. They may look tricky at first glance, but they are really easy if you use the model we introduced. In other words, watch our video about garbage collection before you attempt these questions.

Answers are given at the end of document. If your answer is wrong, or need any help, your personal Examlab tutor is there to help you!

- 1) How many objects are eligible for the garbage collector right after the execution of the line-13 of the following program completes?

```
class A {  
  
    A plug;  
  
    public static void main(String args[]) {  
        A a1 = new A();  
        a1.plug = a1;  
        a1.plug = new A();  
  
        A a2 = new A();  
        a2.plug = new A();  
        a2.plug.plug = new A();  
  
        a1.plug = a2.plug;  
        a2.plug = null; //line-15  
    }  
  
}
```

- 2) How many objects are eligible for the garbage collector right after the execution of the line-18 of the following program completes?

```
public class Box {  
  
    Box prev;  
    Box next;  
  
    Box(Box prev, Box next) {  
        this.prev = prev;  
        this.next = next;  
    }  
  
    Box() { }  
  
    public static void main(String args[]) {  
        Box b1 = new Box();  
        Box b2 = new Box(b1, new Box());  
        b1.prev = new Box(b2, new Box());  
        b1 = null;  
        b2.prev = null; // line-18  
    }  
  
}
```

- 3) How many objects are eligible for the garbage collector right after the execution of the line-11 ?

```
public class Box {  
  
    private Box n;  
    static Box s;  
  
    public static void main(String args[]) {  
        Box b1 = new Box();  
        b1.n = new Box();  
        b1.s = new Box();  
        Box b2 = new Box();  
        b2.s = b1.n; // line-11  
    }  
  
}
```

- 4) How many 'Node' objects are eligible for the garbage collector right after the execution of the line-11 ?

```
public class Node {  
  
    private Node[] nodes;  
  
    public static void main(String args[]) {  
        Node n1 = new Node();  
        Node n2 = new Node();  
        n2.nodes = new Node[] {n1, n2};  
        Node n3 = new Node[] { n1, new Node() } [0];  
        n1 = null;  
        n2 = null;    // line-11  
    }  
}
```

- 5) How many objects are eligible for the garbage collector right after the execution of the line-17 ?

```
public class Node {  
  
    Node node;  
  
    Node(Node node) {  
        this.node = node;  
    }  
  
    public Node wrap() {  
        return new Node(this);  
    }  
  
    public static void main(String args[]) {  
        Node n1 = new Node(null);  
        Node n2 = new Node(n1.wrap());  
        Node n3 = new Node(n1.wrap().wrap());  
        n2.node = n3.node.node;  
        n3 = null;  
    }  
}
```

That's all! You can find the answers in the next page. If your answers do not match with the given answers, or if something is so damn tricky that you can't figure out how to go forward with it, please click the "Ask" button and let your Examlab tutor help you!

## Answers

- 1) . only one object is eligible
- 2) . There are three objects that are eligible
- 3) . There is only one object which is eligible for garbage collector
- 4) . Two objects are eligible
- 5) . The number of objects eligible for GC is two.