

Free Response Question 3

PAUSE and write out a basic code flow for implementing delete in a binary search tree.

ANSWER:

Please note, that even though it says below that the language is Java, it's actually **Pseudocode**. Java is selected only to provide better syntax highlighting.

JAVA

Inputs are: root, val

```
parent, curr = FindWithParent (root, val)
```

```
// curr is a single node
```

```
    if (!(curr.left && curr.right))
```

```
        return DeleteSingle(root, val, parent, curr)
```

```
// curr is not a single node
```

```
    // Implement Node ComputeMinWithParent(Node root).
```

```
    (max_node_parent, max_node) = ComputeMinWithParent(curr.right)
```

```
    Copy max_node stuff into curr
```

```
    DeleteSingle(curr.right, max_node.val, max_node_parent, max_node)
```