

Problem 6: Find LCA of two nodes in BST

```
class TreeNode:
```

```
    def __init__(self, val):
```

```
        self.val = val
```

```
        self.left = None
```

```
        self.right = None
```

```
def insert(root, val):
```

```
    if root is None:
```

```
        return TreeNode(val)
```

```
    if val < root.val:
```

```
        root.left = insert(root.left, val)
```

```
    else:
```

```
        root.right = insert(root.right, val)
```

```
    return root
```

```
def find_lca(root, p, q):
```

```
    if root is None:
```

```
        return None
```

```
    if p.val < root.val and q.val < root.val:
```

```
        return find_lca(root.left, p, q)
```

```
    if p.val > root.val and q.val > root.val:
```

```
        return find_lca(root.right, p, q)
```

```
    return root
```

```
root = None
```

```
root = insert(root, 6)
```

```
root = insert(root, 2)
```

```
root = insert(root, 8)
```

```
root = insert(root, 0)
```

```
root = insert(root, 4)
```

```
root = insert(root, 7)
```

```
root = insert(root, 9)
```

```
root = insert(root, 3)
```

```
root = insert(root, 5)
```

```
node_p = TreeNode(2)
```

```
node_q = TreeNode(8)
```

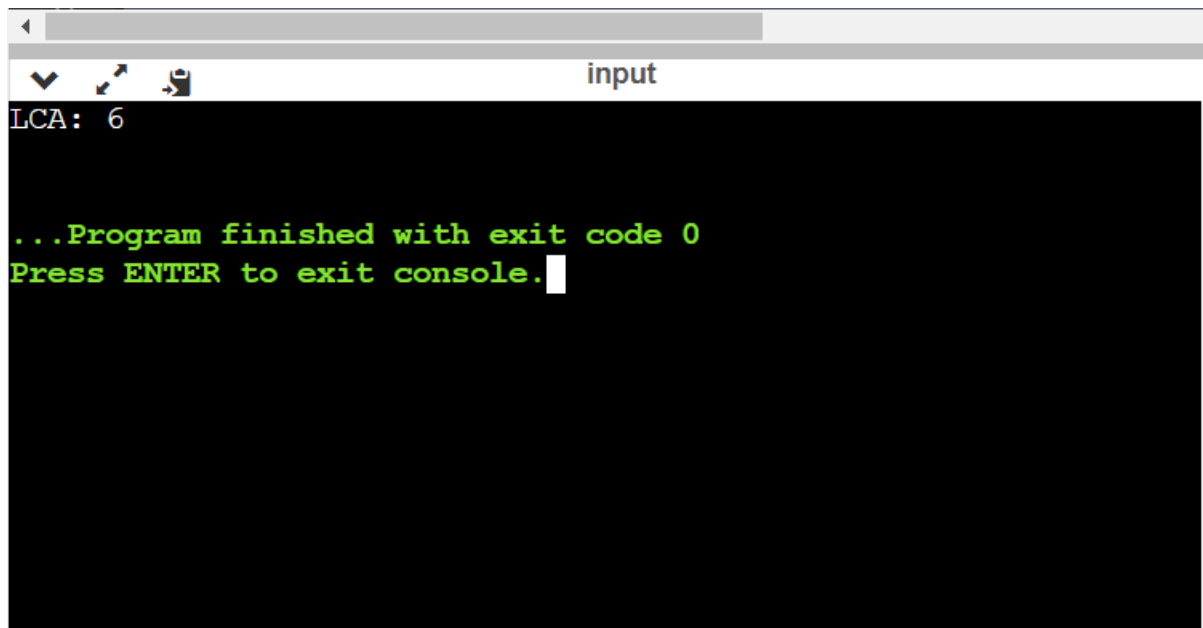
```
lca = find_lca(root, node_p, node_q)
```

```
if lca:
```

```
    print("LCA:", lca.val)
```

```
else:
```

```
print("LCA not found.")
```



The screenshot shows a terminal window with a title bar that includes standard window controls (minimize, maximize, close) and the title 'input'. The terminal has a black background with green text. The first line of output is 'LCA: 6'. The second line is '...Program finished with exit code 0'. The third line is 'Press ENTER to exit console.' followed by a white cursor block.

```
LCA: 6

...Program finished with exit code 0
Press ENTER to exit console.
```