

Linear and Binary Search (Optional)

If you're curious about how linear and binary search look in code, here are a couple of implementations in Python:

```
1 def linear_search(list, key):
2     """If key is in the list returns its position in the list,
3     otherwise returns -1."""
4     for i, item in enumerate(list):
5         if item == key:
6             return i
7     return -1
8
```

```
1 def binary_search(list, key):
2     """Returns the position of key in the list if found, -1 otherwise.
3
4     List must be sorted.
5     """
6     left = 0
7     right = len(list) - 1
8     while left <= right:
9         middle = (left + right) // 2
10
11         if list[middle] == key:
12             return middle
13         if list[middle] > key:
14             right = middle - 1
15         if list[middle] < key:
16             left = middle + 1
17     return -1
18
```

Don't worry if this seems complex! Understanding this code isn't required for understanding how to use binary search in troubleshooting.

Mark as completed