**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:

**Linear search:**

def linear\_search(list, key):

    """If key is in the list returns its position in the list,

       otherwise returns -1."""

    for i, item in enumerate(list):

        if item == key:

            return i

    return -1

**Binary search:**

def binary\_search(list, key):

    """Returns the position of key in the list if found, -1 otherwise.

    List must be sorted.

    """

    left = 0

    right = len(list) - 1

    while left <= right:

        middle = (left + right) // 2

        if list[middle] == key:

            return middle

        if list[middle] > key:

            right = middle - 1

        if list[middle] < key:

            left = middle + 1

    return -1