

How do we solve problems recursively?

Let's look more closely at options 2 and 3

2. The 500,000 element is larger than **key**.

This means that **key** does not appear after element 500,000.

We didn't find **key**, but we did discover that we don't need to look at any values after index 500,000.

The next index we look at we know for certain should be in the range [0, 499,999]

3. The 500,000 element is smaller than **key**.

Same idea as 2. just the other side of the list, so let's look next in the range [500,001, 1,000,000]

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