Exercise 4

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Finger Exercises due Oct 27, 2022 07:30 +08 Completed

Exercise 4

1/1 point (graded)

ESTIMATED TIME TO COMPLETE: 5 minutes

Here is some code for linear search that uses the fact that a set of elements is sorted in increasing order:

```
def search(L, e):
    for i in range(len(L)):
        if L[i] == e:
            return True
        if L[i] > e:
            return False
    return False
```

Consider the following code, which is an alternative version of `search`.

```
def search3(L, e):
    if L[0] == e:
        return True
    elif L[0] > e:
        return False
    else:
        return search3(L[1:], e)
```

Which of the following statements is correct? You may assume that each function is tested with a list `L` whose elements are sorted in increasing order. For simplicity, assume `L` is a list of integers.

- `search` and `search3` return the same answers.
- `search` and `search3` return the same answers provided `L` is non-empty.
- **(selected)** `search` and `search3` return the same answers provided `L` is non-empty and `e` is in `L`.
- `search` and `search3` do not return the same answers.
- `search` and `search3` return the same answers for lists of length 0 and 1 only.

✔

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Exercise 4

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? SPOILER

SPOILER search(L = [1,2,3,4], 0) == search3(L = [1,2,3,4], 0) # AND search(L = [1,3,4], 2) == search3(L = [1,3,4], 2) Given the ... 3

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