MITx: 6.00.1x Introduction to Computer Science and Programming Using ...

PROBLEM 5 (5/5 points)

You have 2 attempts for this problem.

In lecture, we saw a version of linear search that used the fact that a set of elements is sorted in increasing order. Here is the code from lecture:

```
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 newsearch(L, e):
    size = len(L)
    for i in range(size):
        if L[size-i-1] == e:
            return True
        if L[i] < e:
            return False
    return False
```

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 positive integers.

- `search` and `newsearch` return the same answers for all `L` and `e`.

- `search` and `newsearch` return the same answers provided `L` is non-empty.
- `search` and `newsearch` return the same answers provided `L` is non-empty and `e` is in `L`.
- `search` and `newsearch` never return the same answers.
- ✔ `search` and `newsearch` return the same answers for lists `L` of length 0, 1, or 2.

FINAL CHECK | **SAVE** | *You have used 1 of 2 submissions*

Show related resources ▼