

QUIZ 3

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1. Draw a box and pointer diagram for the following Linked Lists.

(a) `Link(1, Link(2, Link(3)))`

(b) `Link(1, Link(Link(2), 3))`

(c) `Link(1, Link(Link(2, Link(3, Link(4))), \`
`Link(Link(5, Link(6)), Link(7)))`

2. Write a function `kdeepgen(k, lst)` which takes an integer `k` and a list of values to yield `lst`. `kdeepgen` returns a generator that has `k` depth and yields all elements of the provided `lst`. We define the standard generator function, which requires only one for loop to iterate over, to have depth 1. A generator with depth 2 would require two for loops, with one nested inside the other. A generator with depth `k` would require `k` for loops.

```
def kdeepgen(k, lst):
    """Returns a generator that has k 'depth' and yields all
       elements of the
       provided lst. 'Depth' is defined as another nested for loop
       . We define
       the regular generator function to have depth 1.
    >>> for i in kdeepgen(1, [1, 2, 3]):
    ...     print(i)
    ...
    1
    2
    3
    >>> for i in kdeepgen(3, [1, 2, 3]):
    ...     for j in i:
    ...         for k in j:
    ...             print(k)
    ...
    1
    2
    3
    """
    if _____:

        for i in _____:

            yield _____

            raise _____

    yield _____
```