

Exceptions

Announcements

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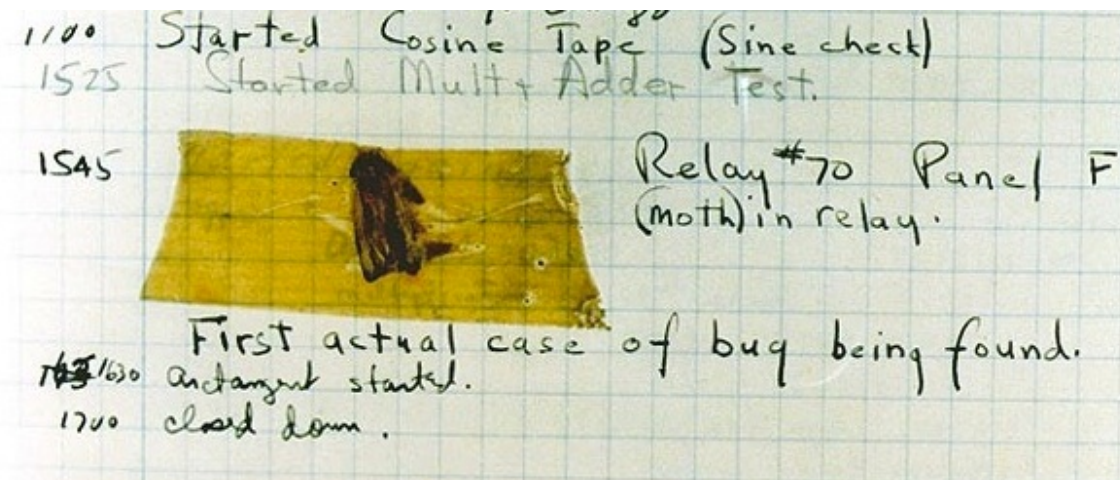
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- A function receives an argument value of an improper type
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Grace Hopper's Notebook, 1947, Moth found in a Mark II Computer

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If **f** calls **g** and **g** calls **h**, exceptions can shift control from **h** to **f** without waiting for **g** to return.

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(Exception handling tends to be slow.)

Raising Exceptions

Assert Statements

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(Demo)

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The <except suite> is executed, with <name> bound to the exception

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def invert(x):  
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    print('Never printed if x is 0')  
    return inverse  
  
def invert_safe(x):  
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Example: Reduce

Reducing a Sequence to a Value

Reducing a Sequence to a Value

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    """Combine elements of s pairwise using f, starting with initial.
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E.g., `reduce(mul, [2, 4, 8], 1)` is equivalent to `mul(mul(mul(1, 2), 4), 8)`.

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>>> reduce(mul, [2, 4, 8], 1)  
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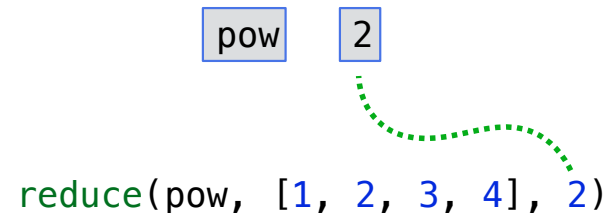
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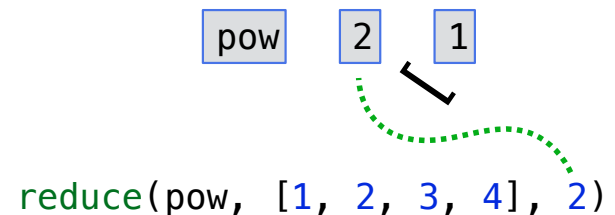
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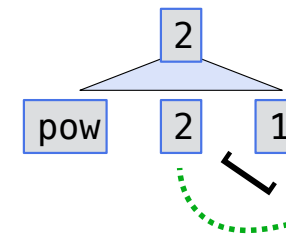
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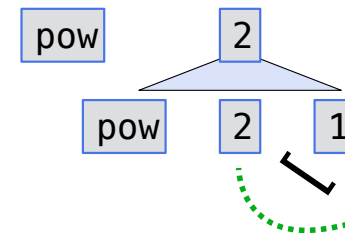
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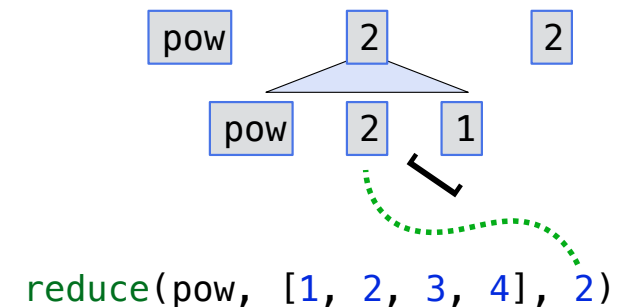
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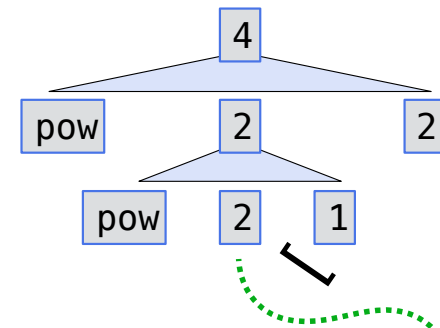
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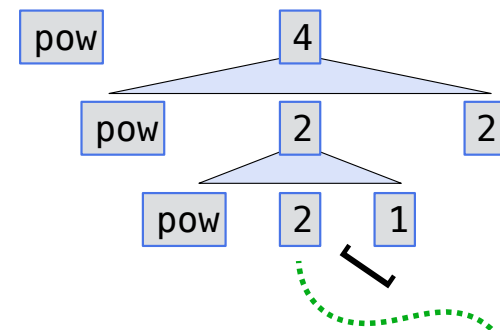
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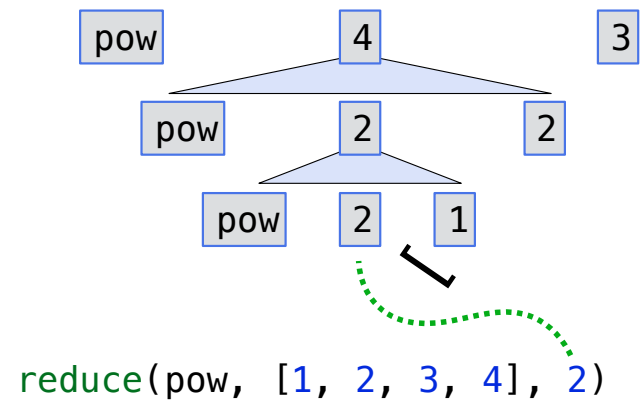
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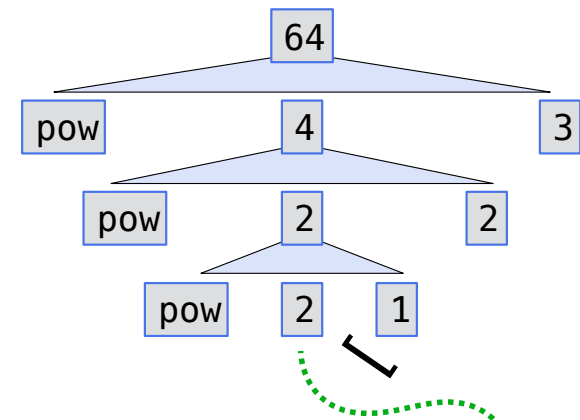
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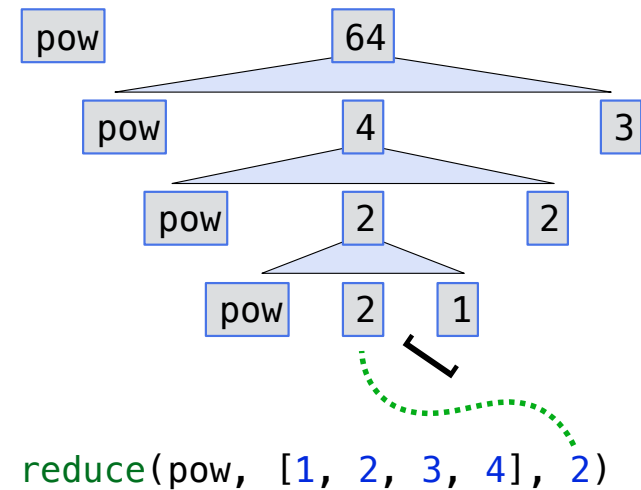
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a sequence of values that can be the second argument

`initial` is ...
a value that can be the first argument



Reducing a Sequence to a Value

```
def reduce(f, s, initial):  
    """Combine elements of s pairwise using f, starting with initial.
```

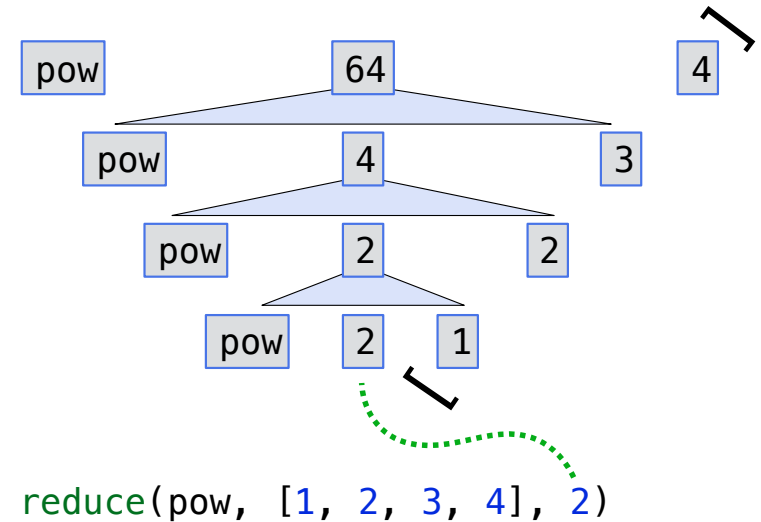
E.g., `reduce(mul, [2, 4, 8], 1)` is equivalent to `mul(mul(mul(1, 2), 4), 8)`.

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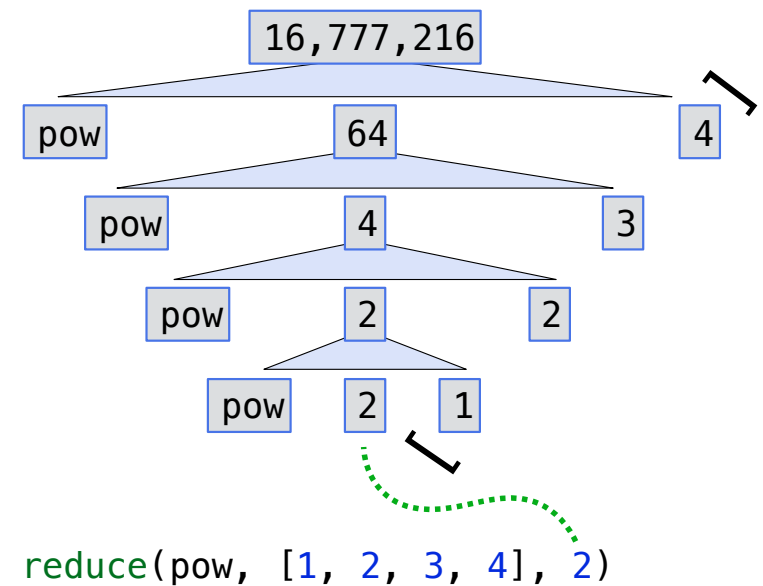
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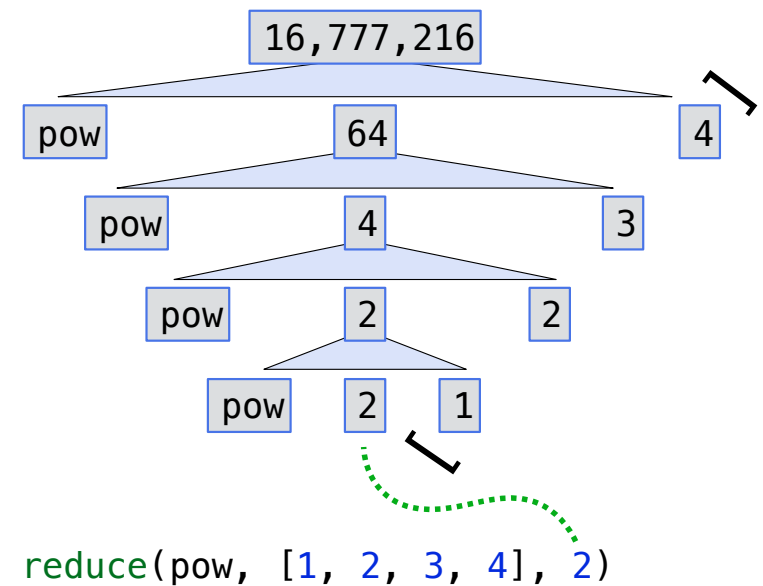
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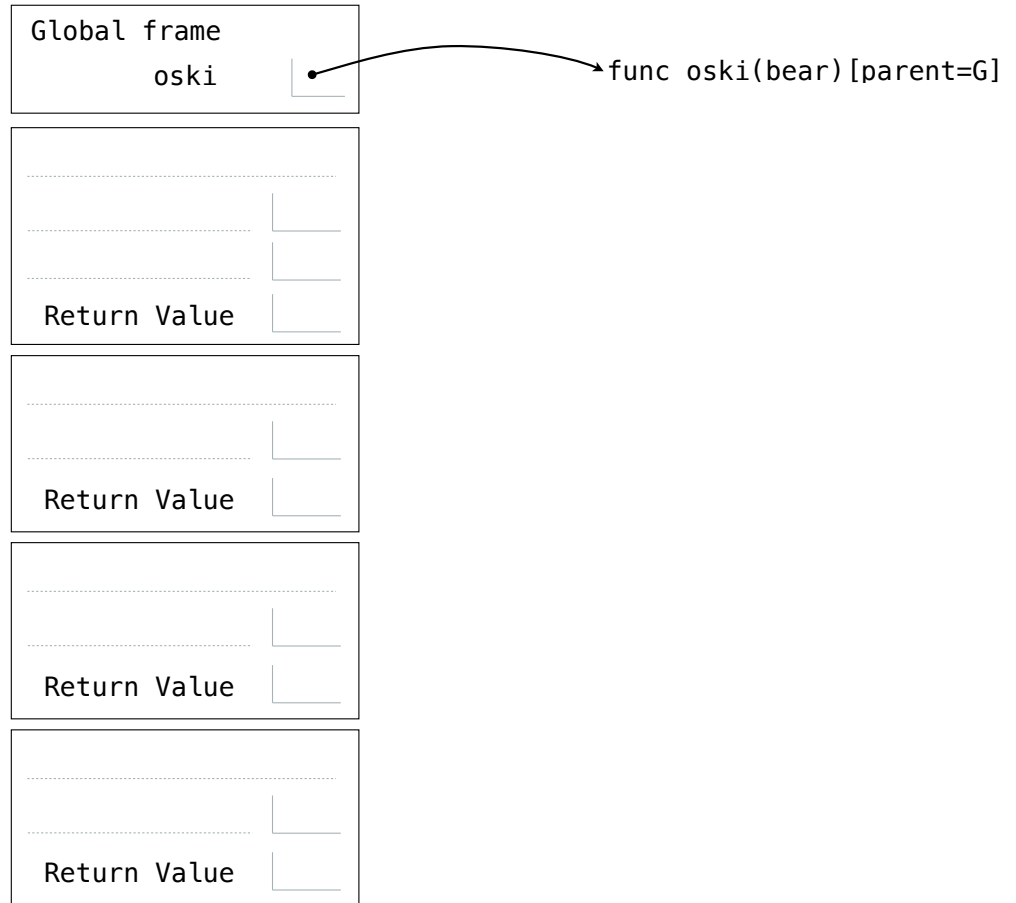


(Demo)

Environment Diagrams Review

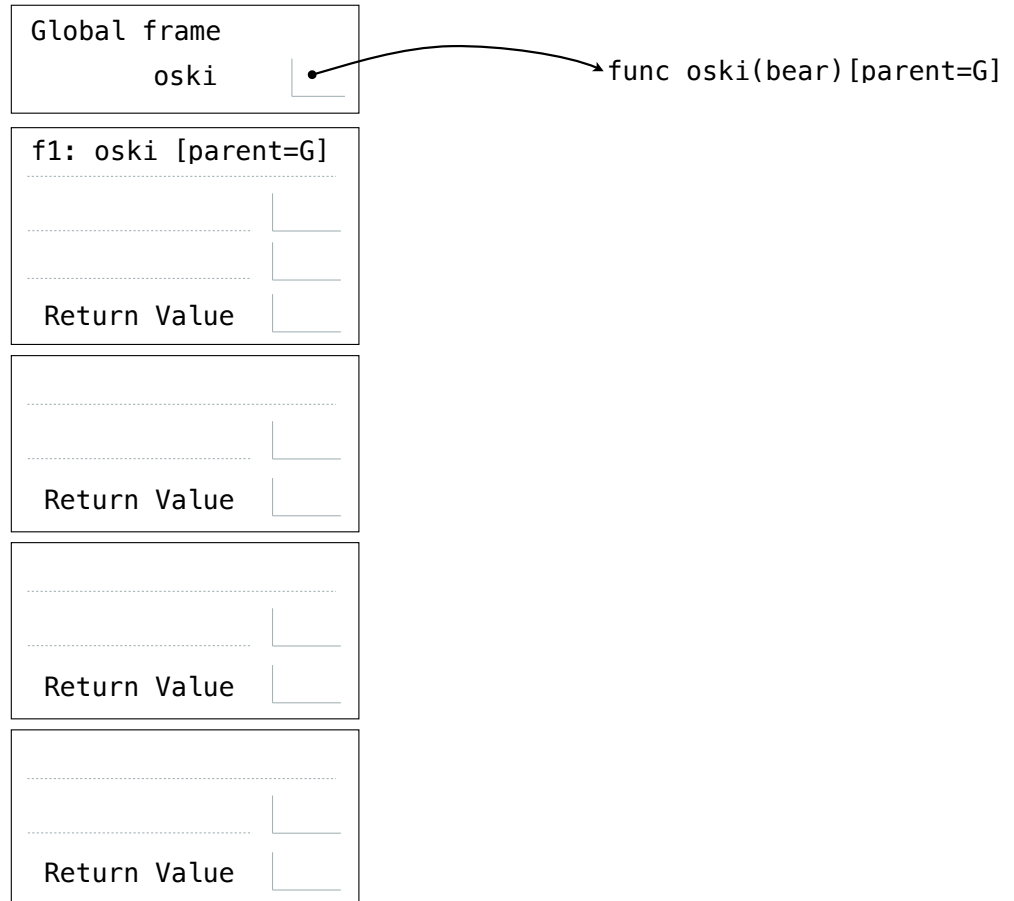
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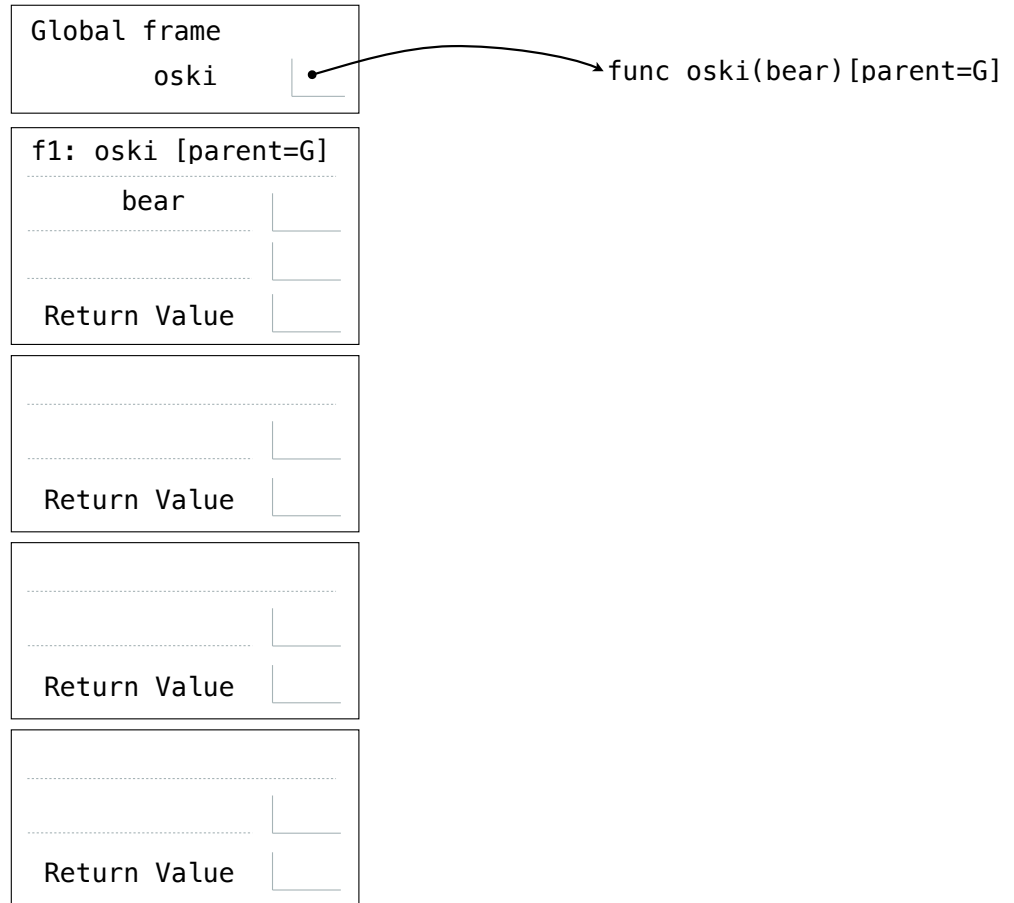
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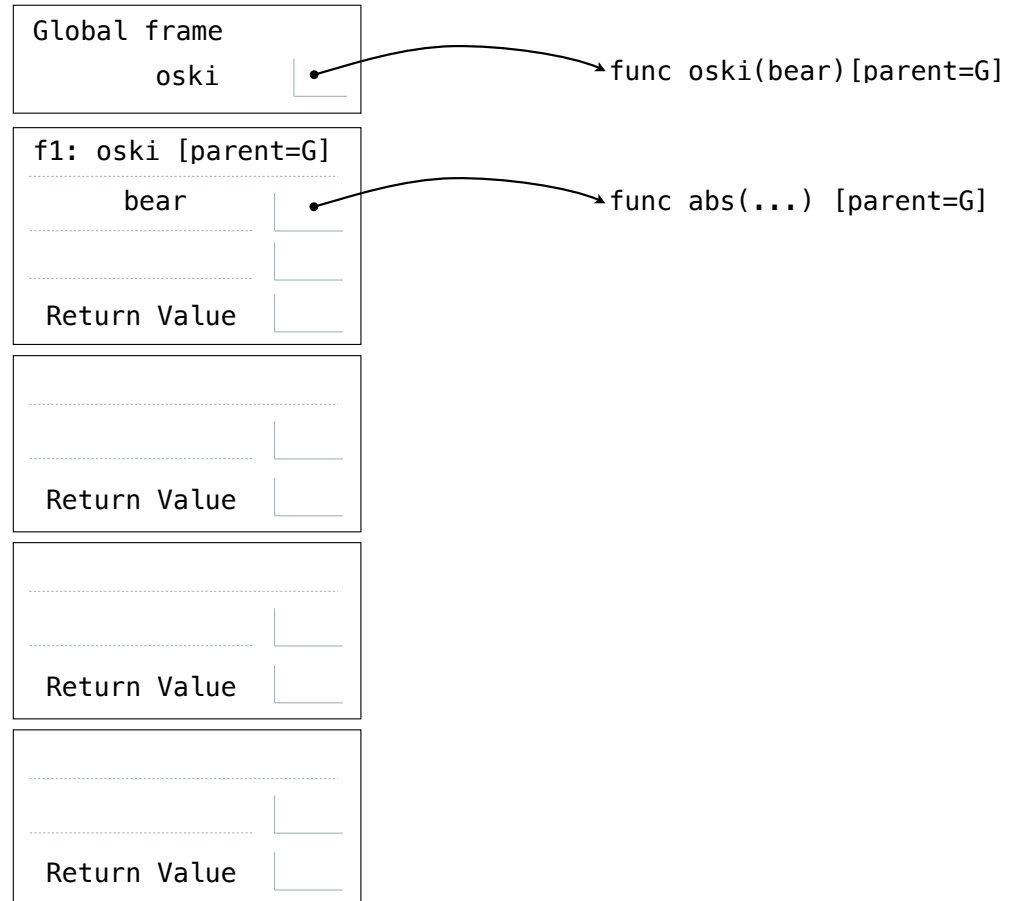
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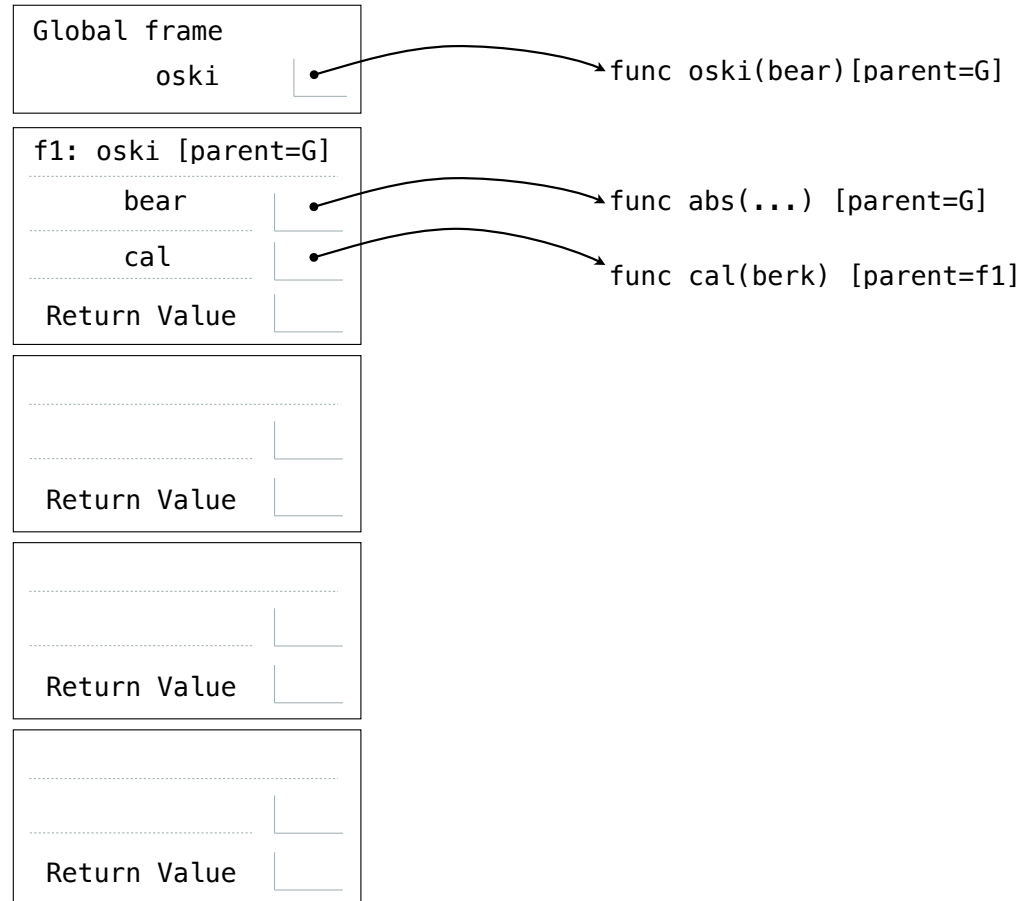
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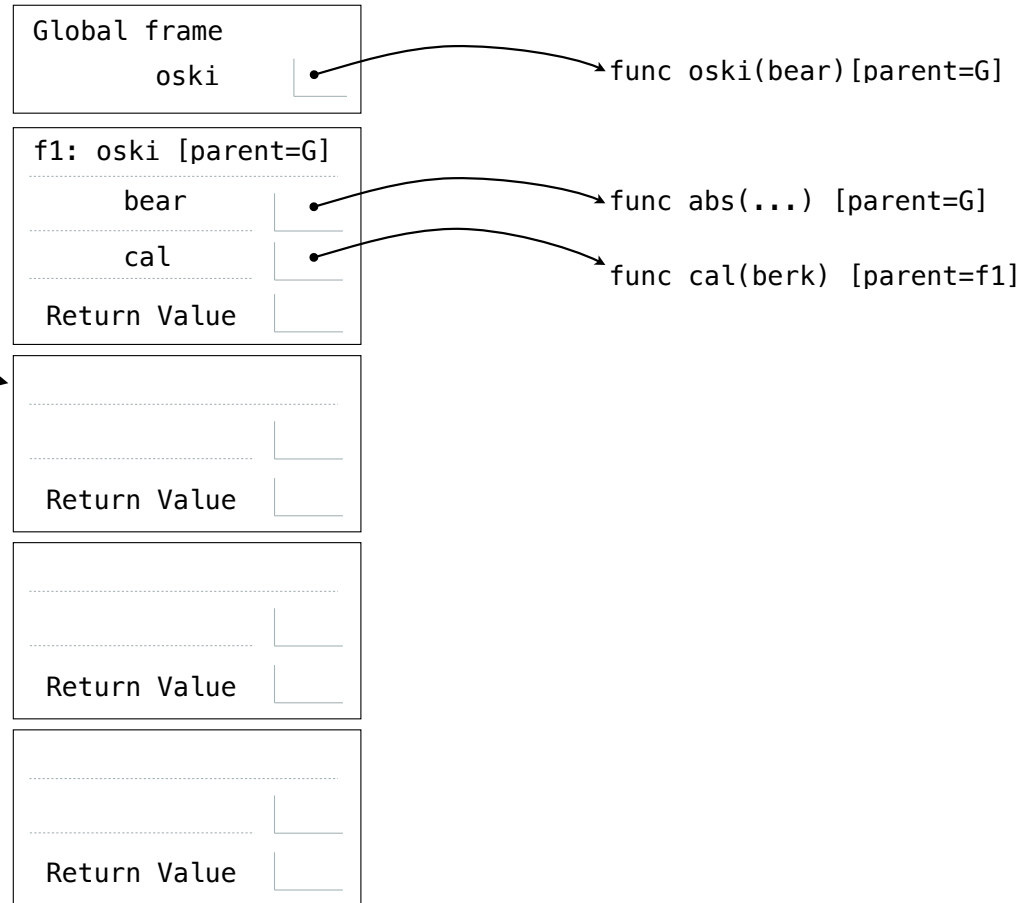
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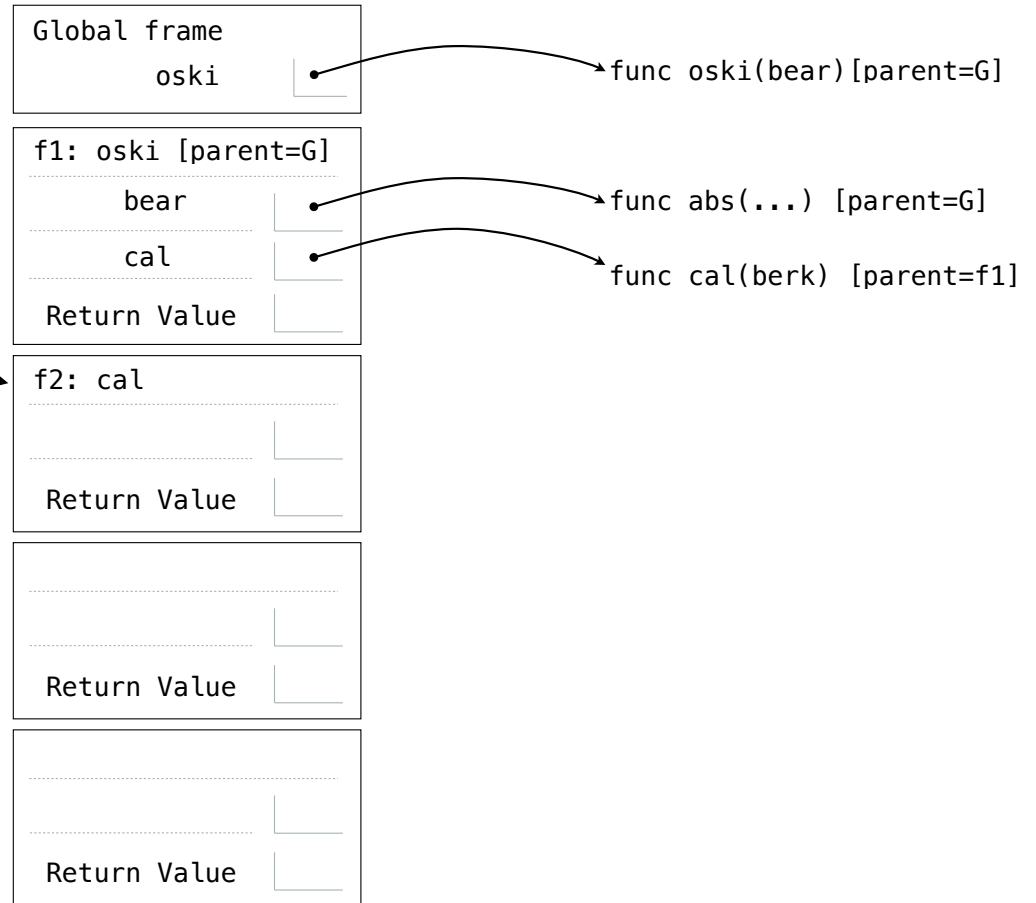
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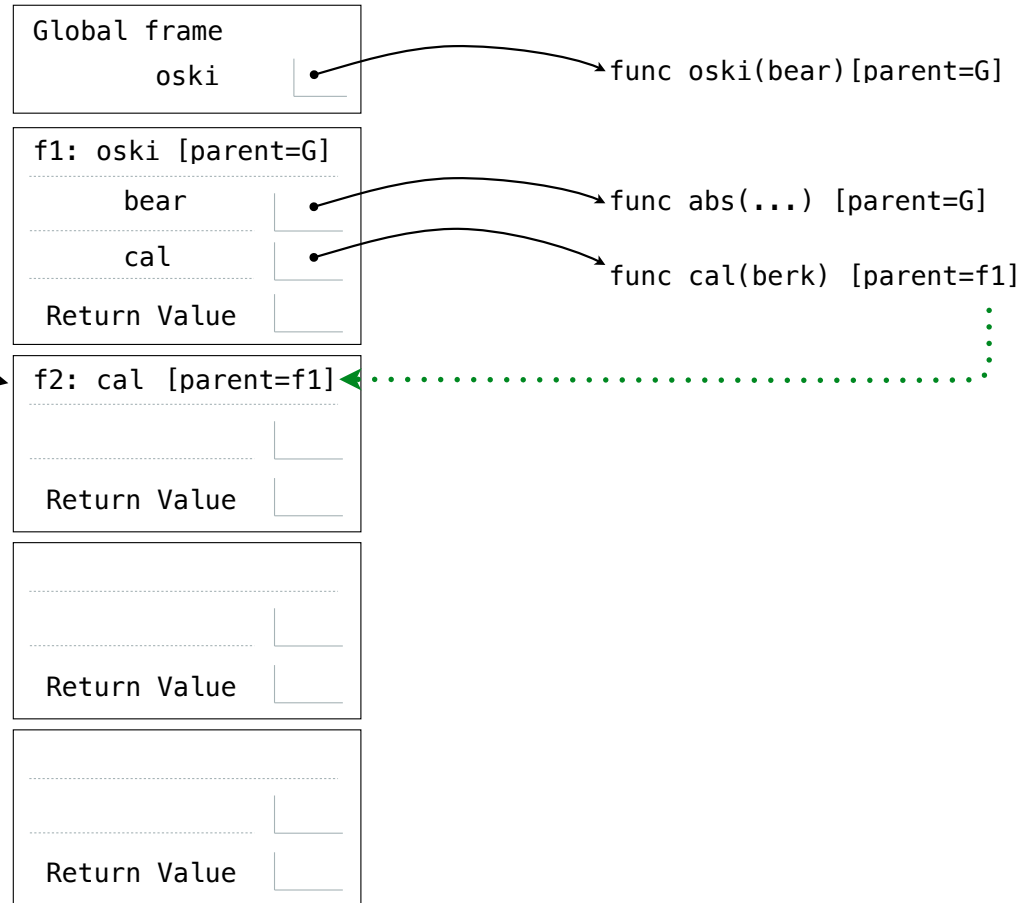
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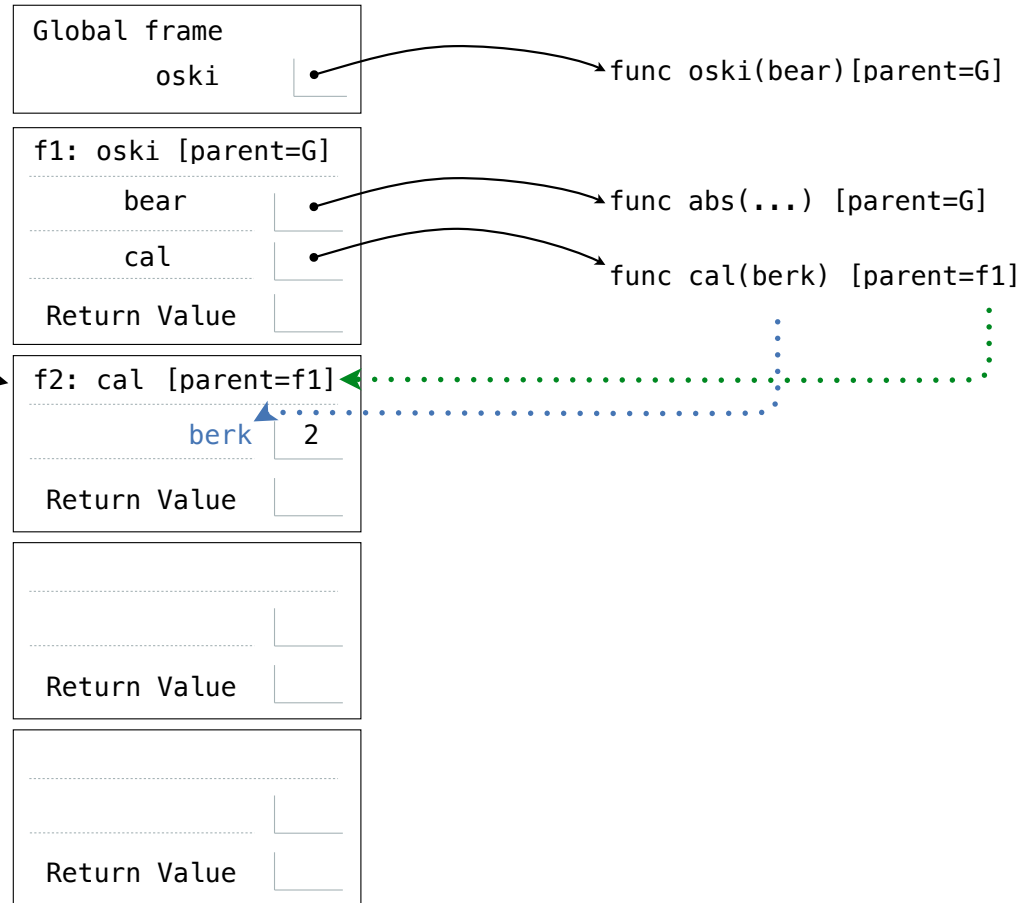
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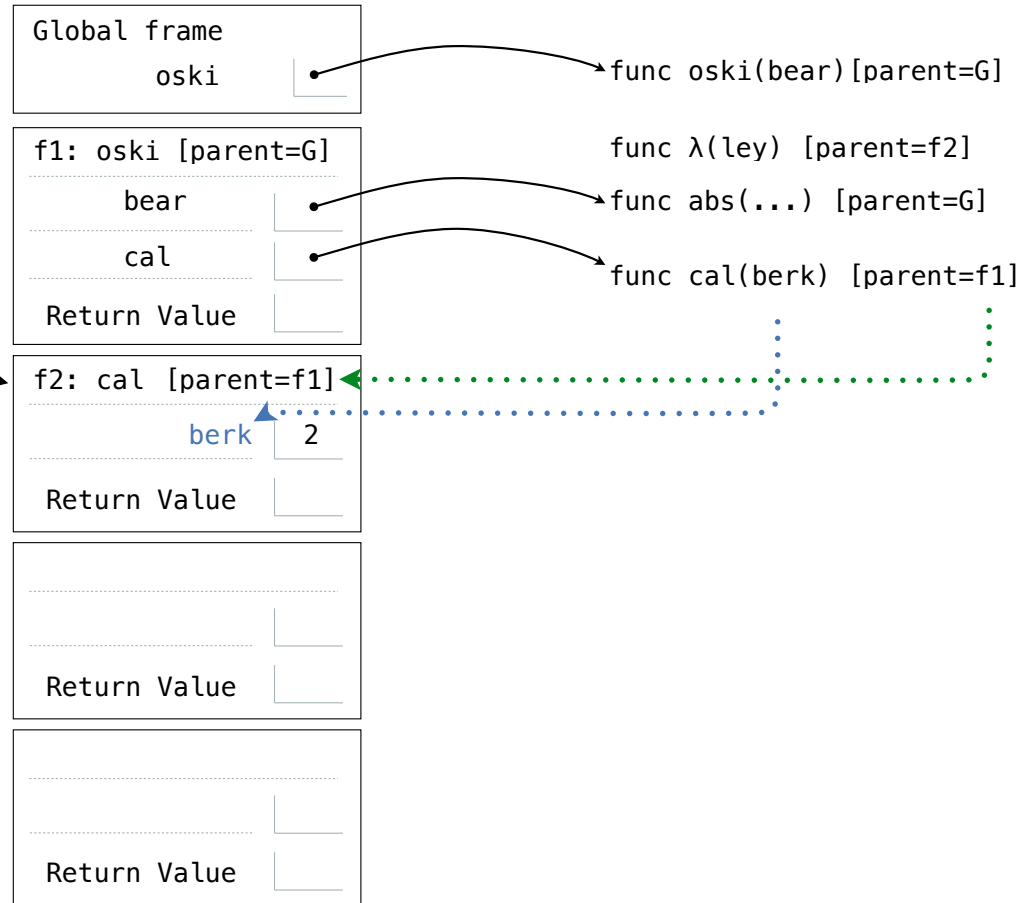
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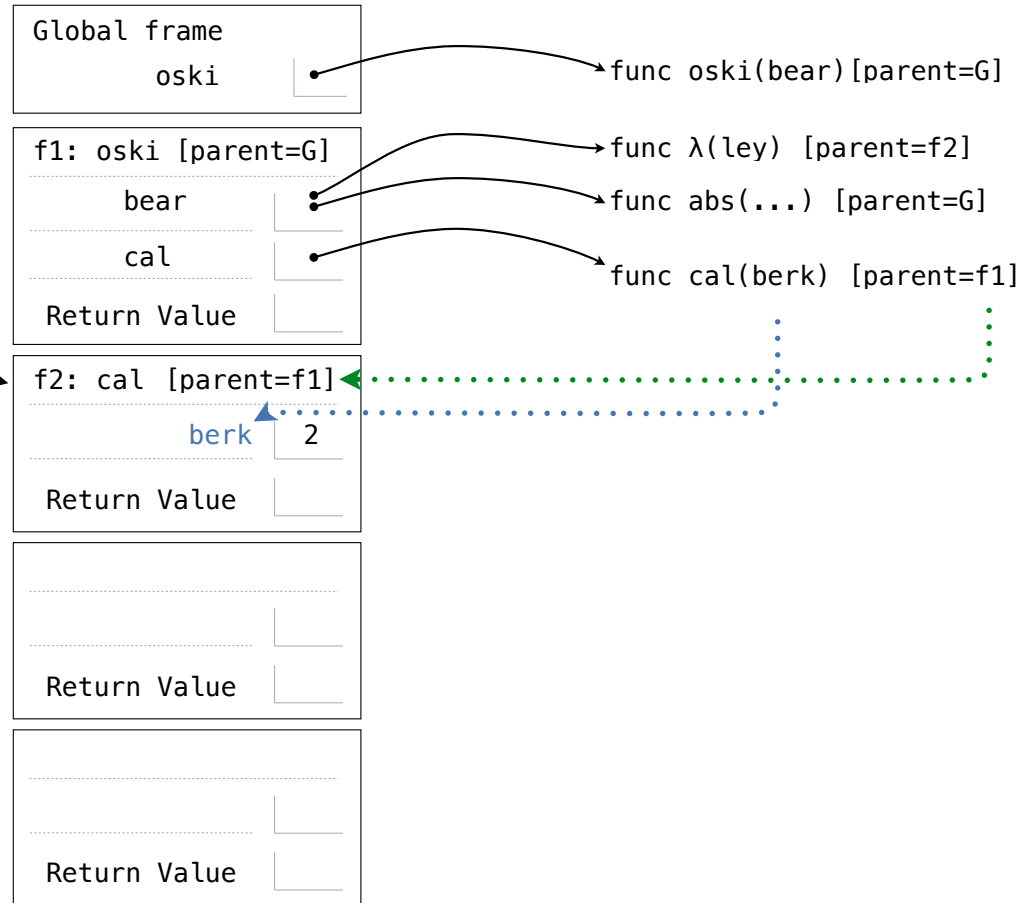
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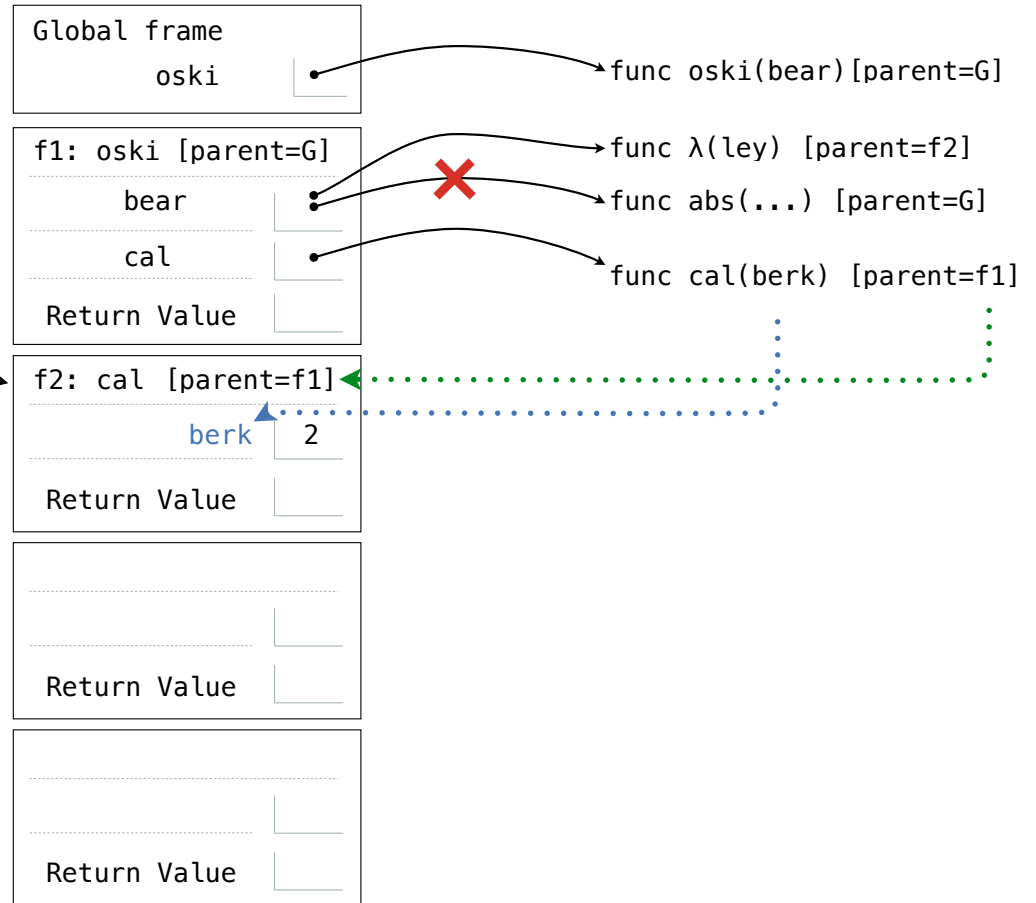
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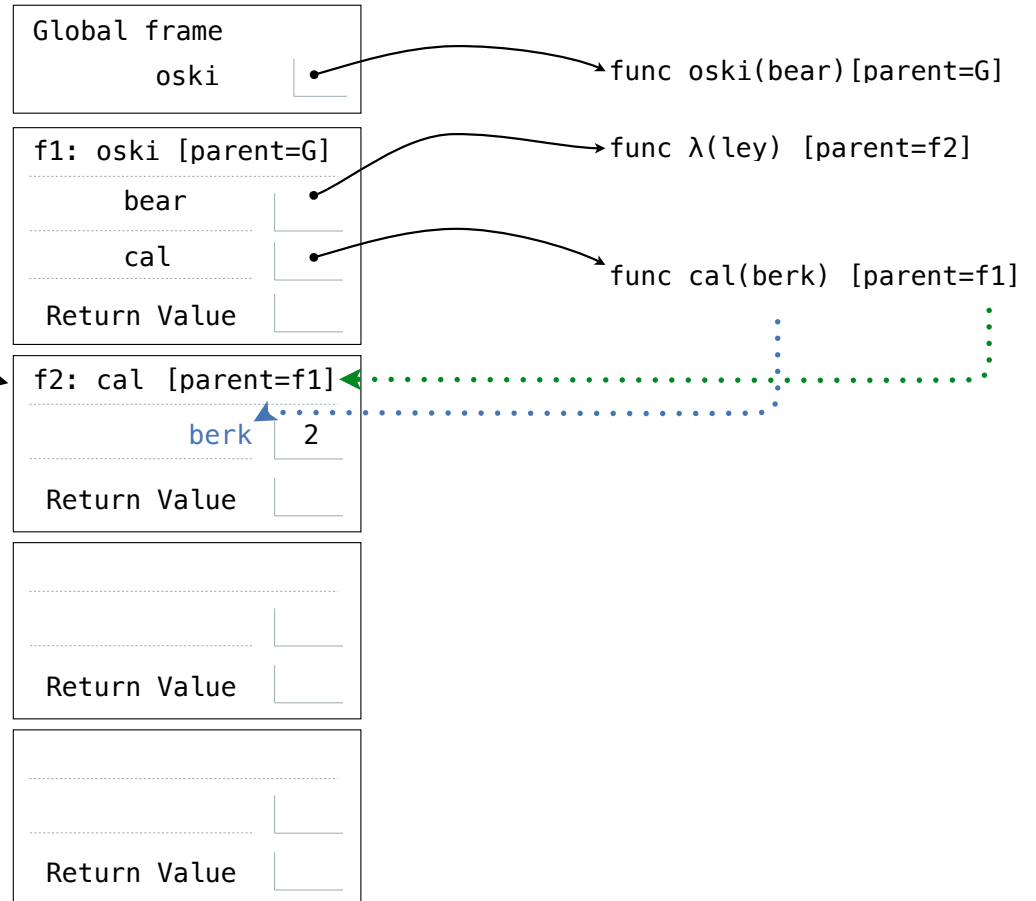
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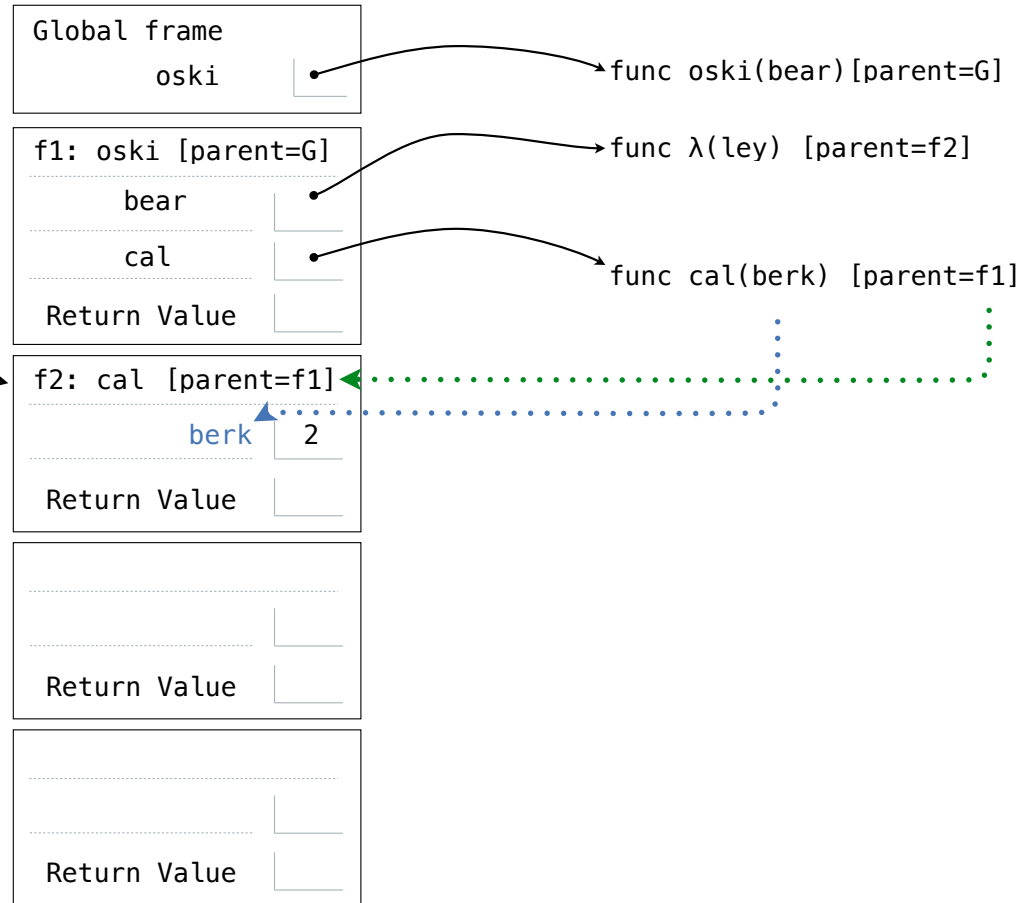
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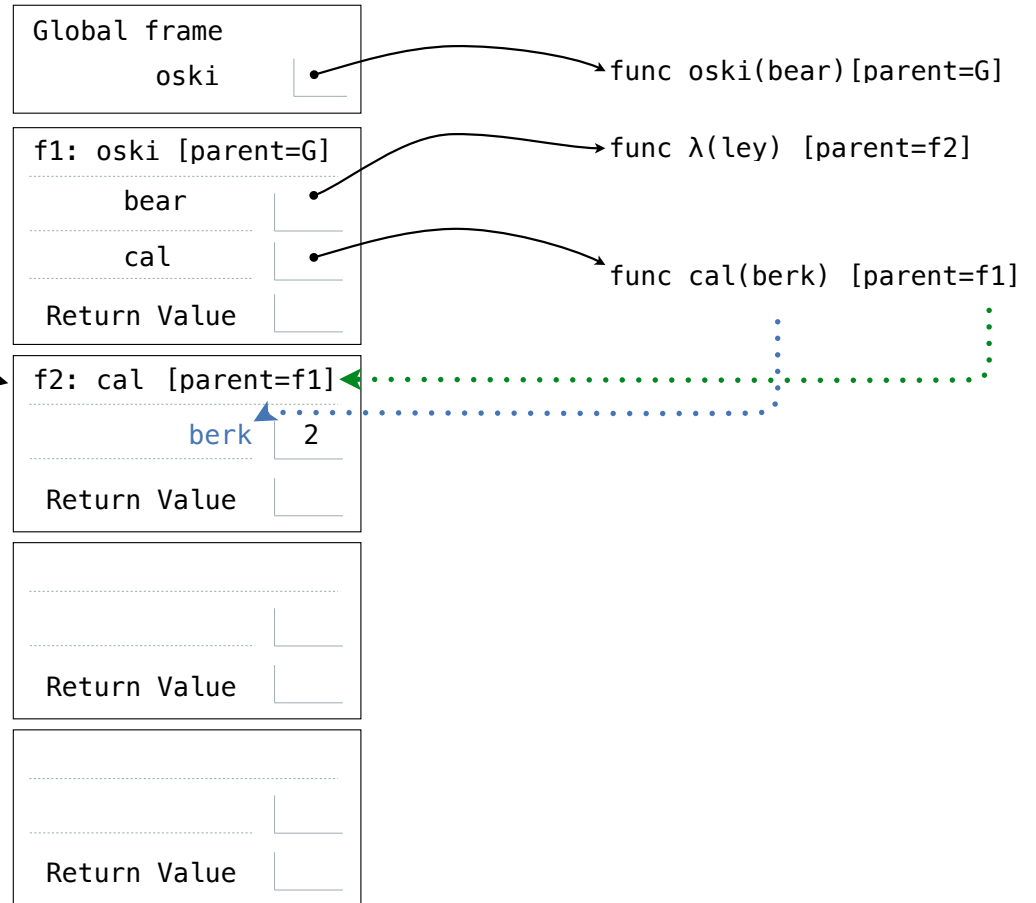
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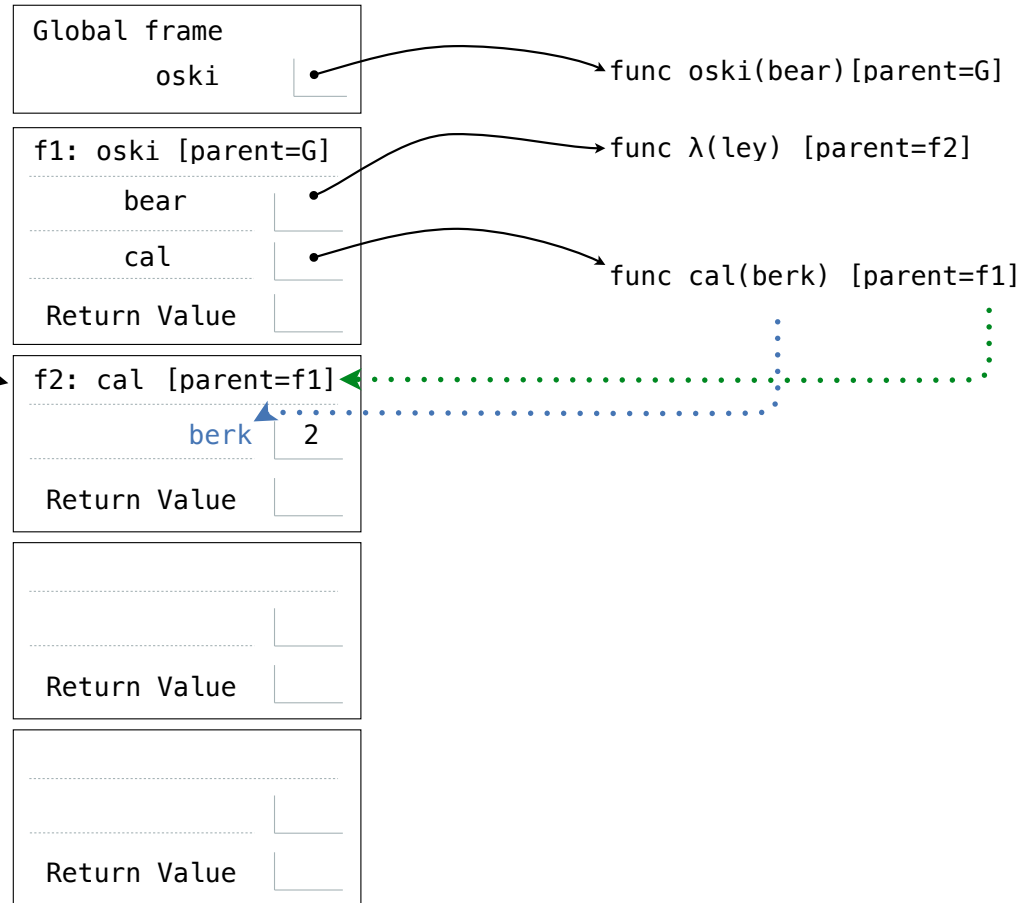
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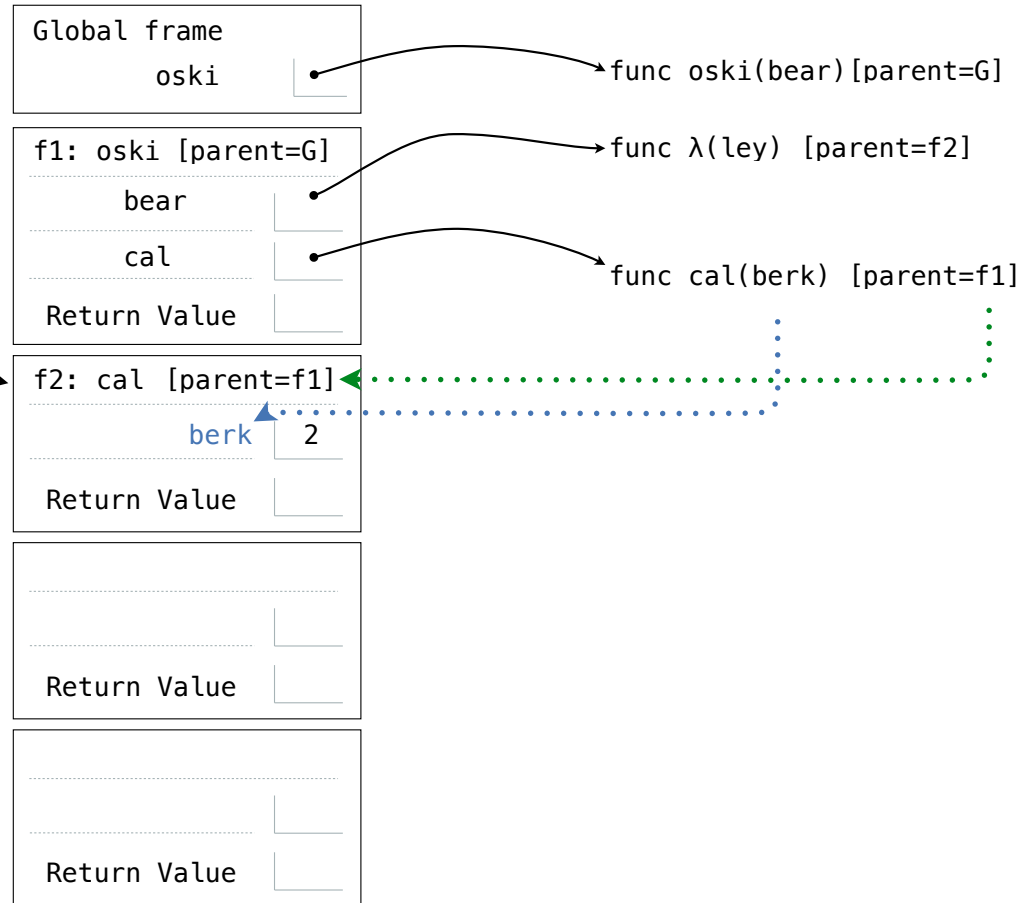
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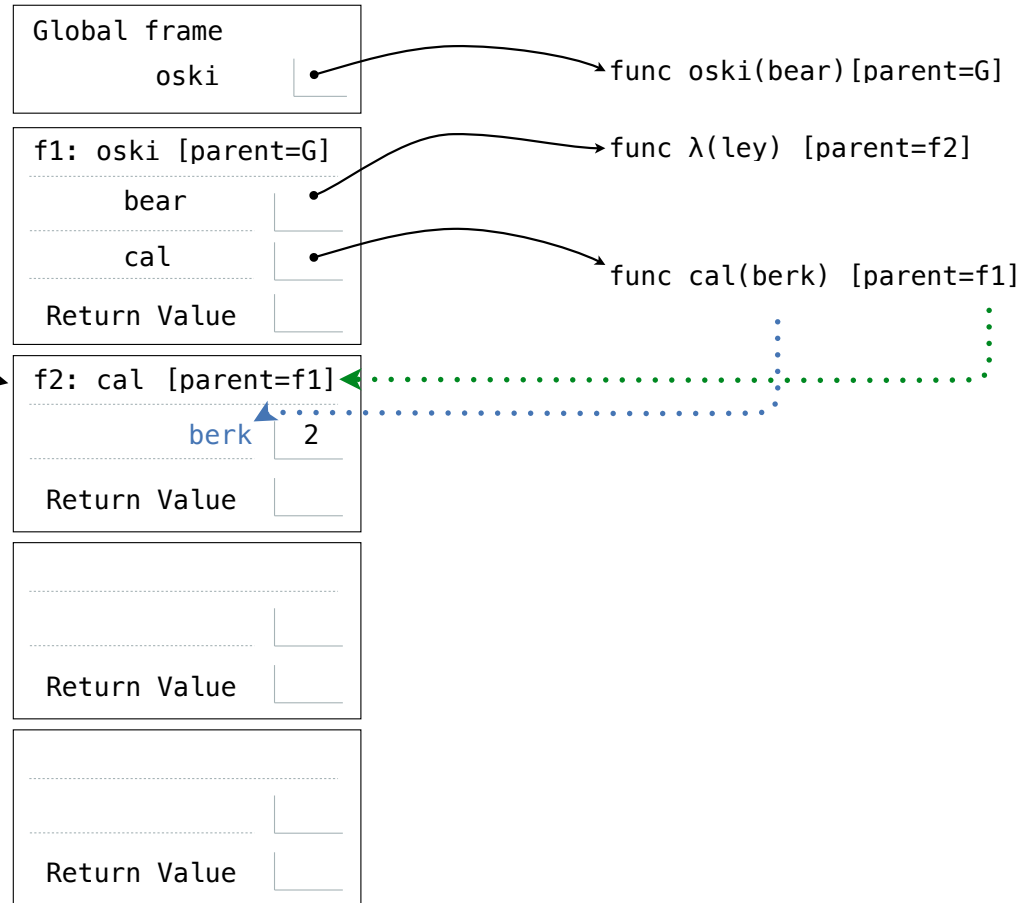
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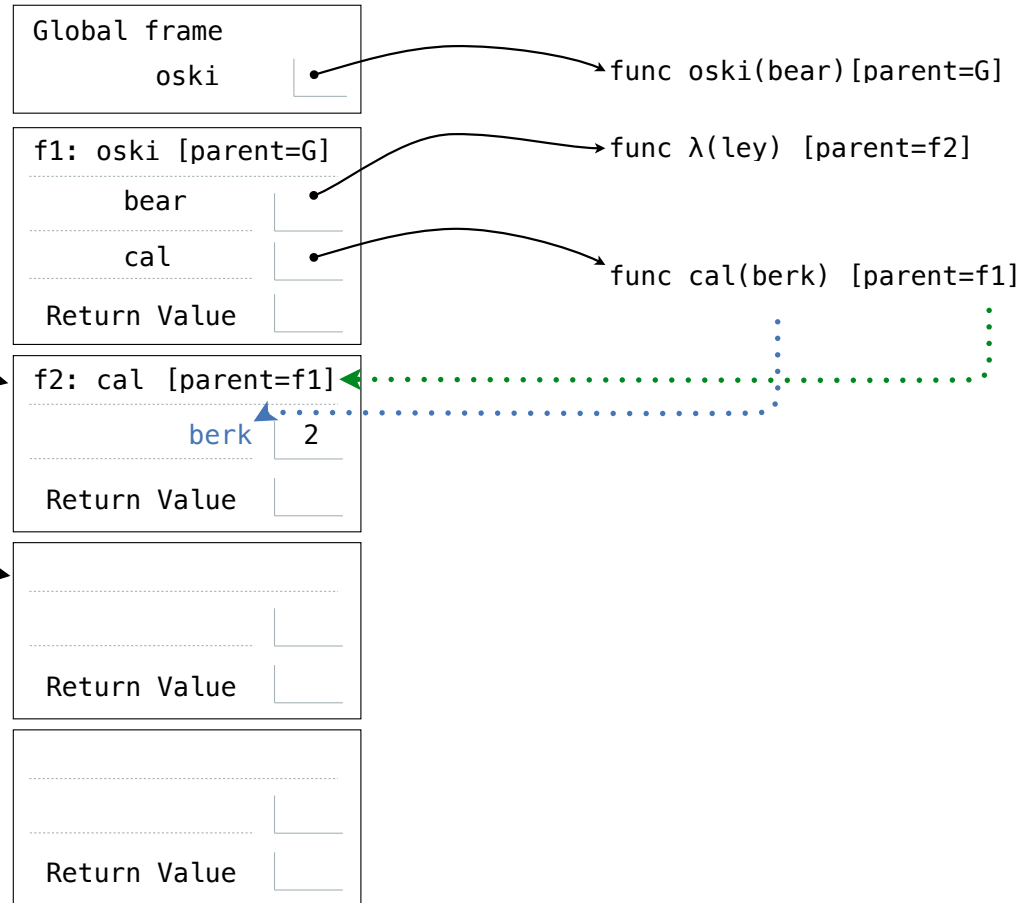
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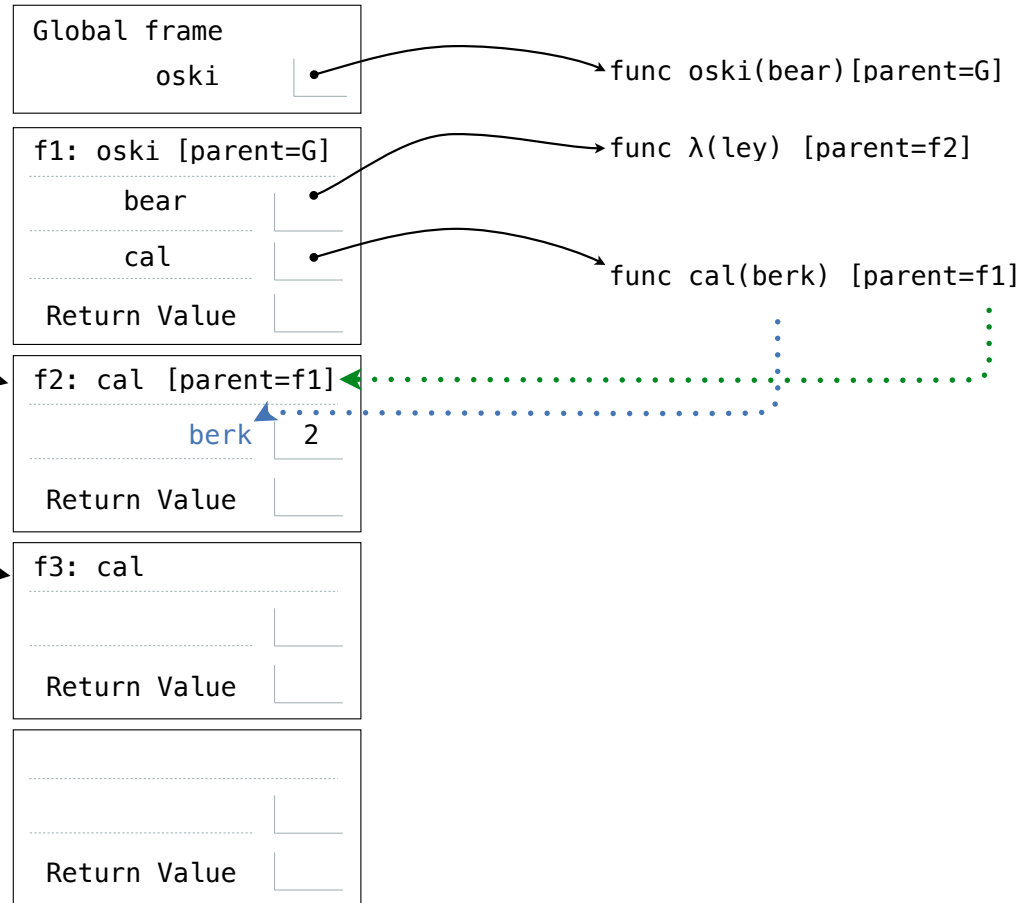
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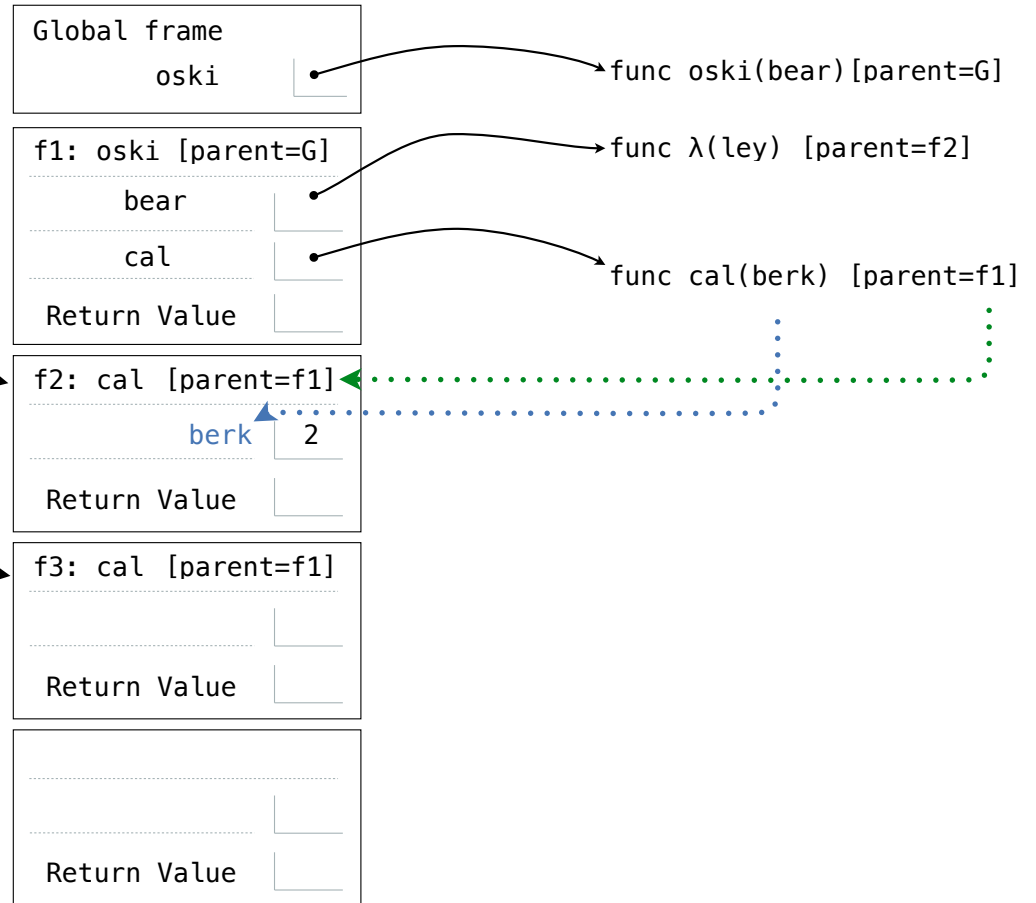
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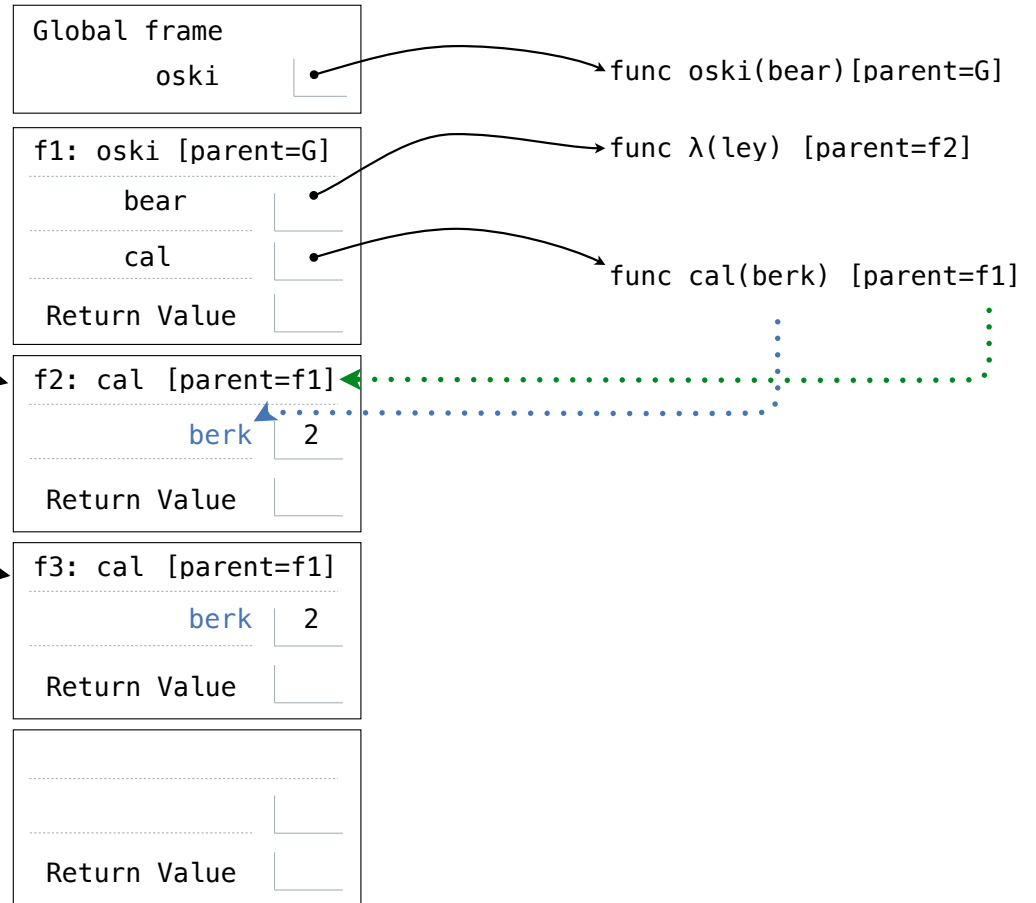
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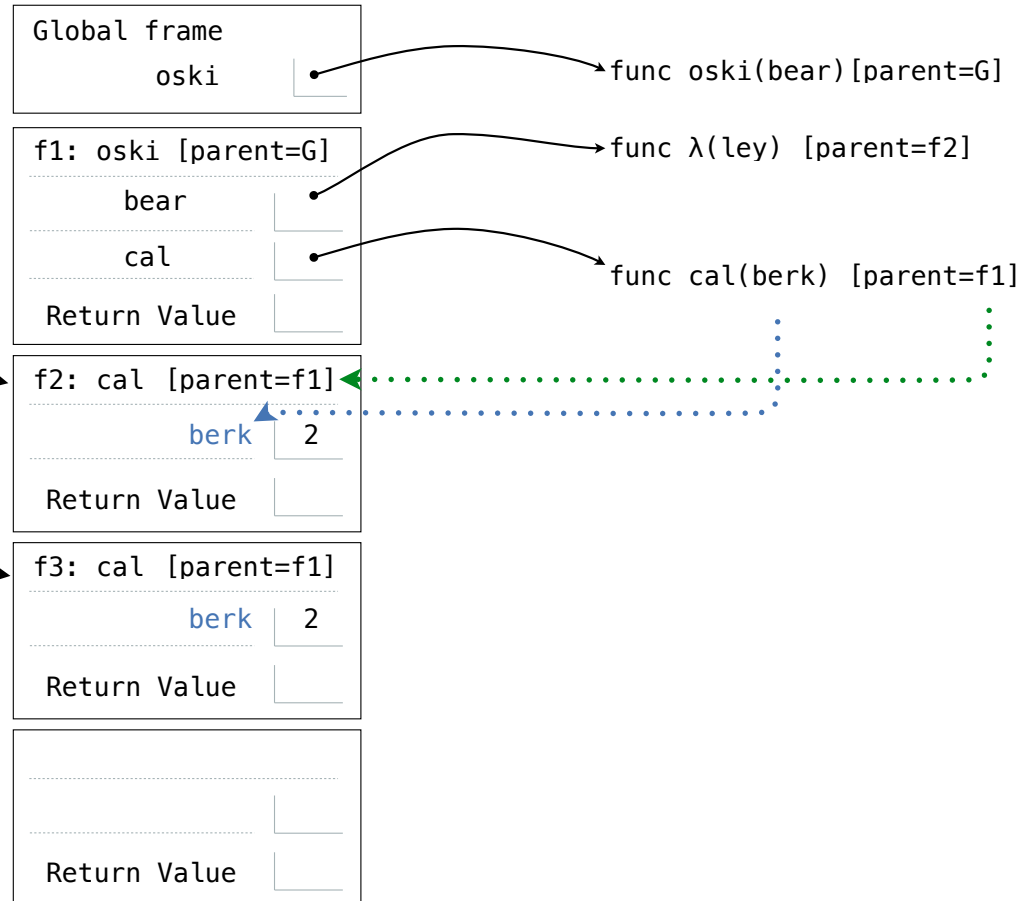
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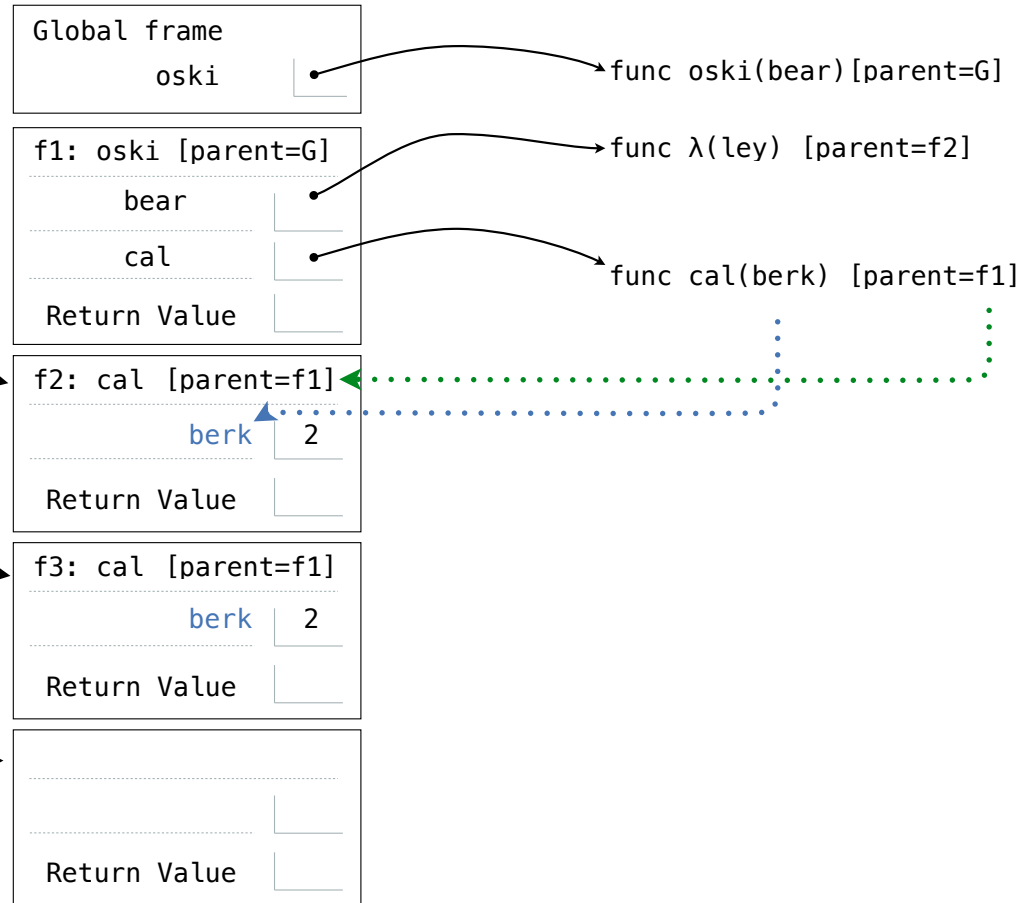
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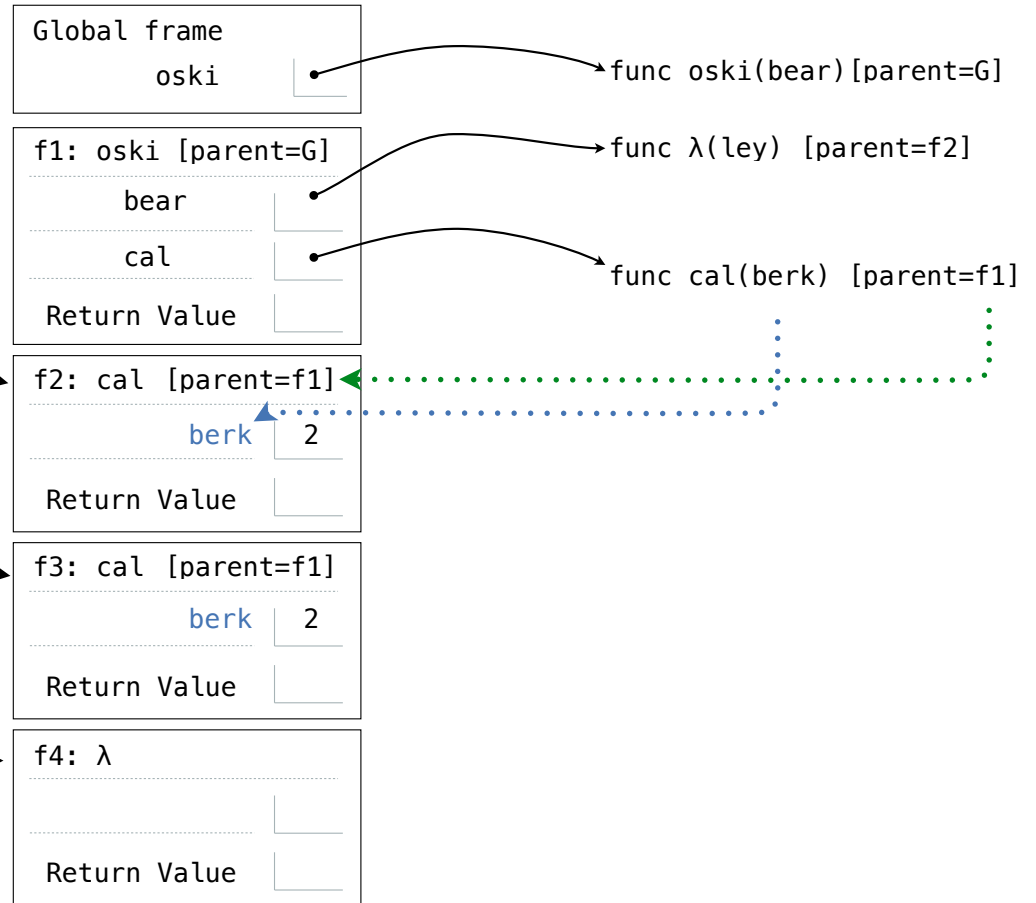
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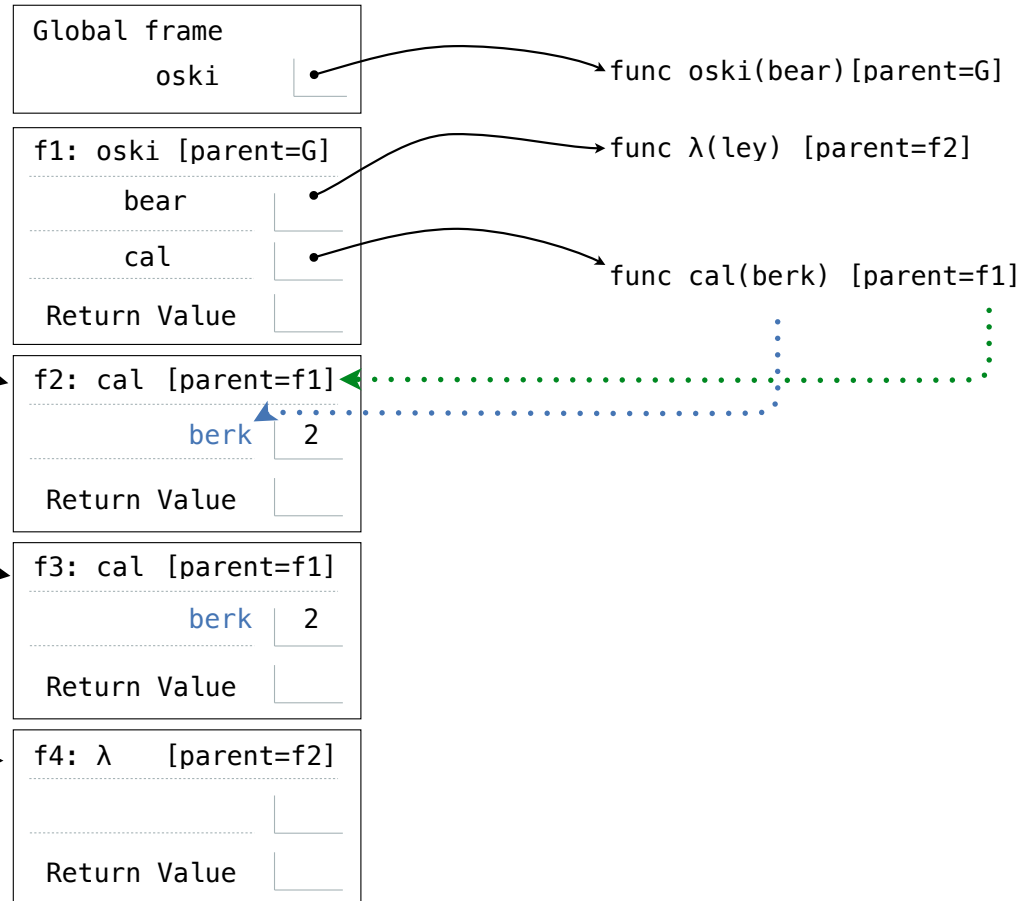
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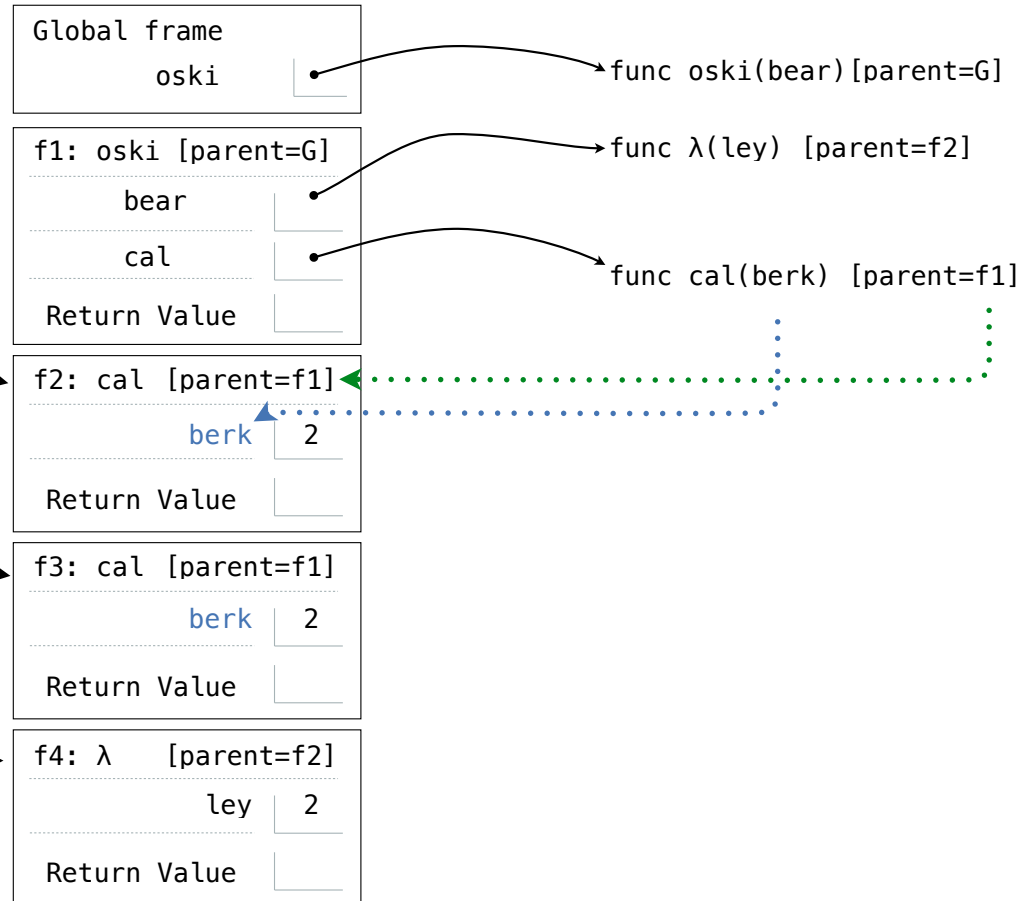
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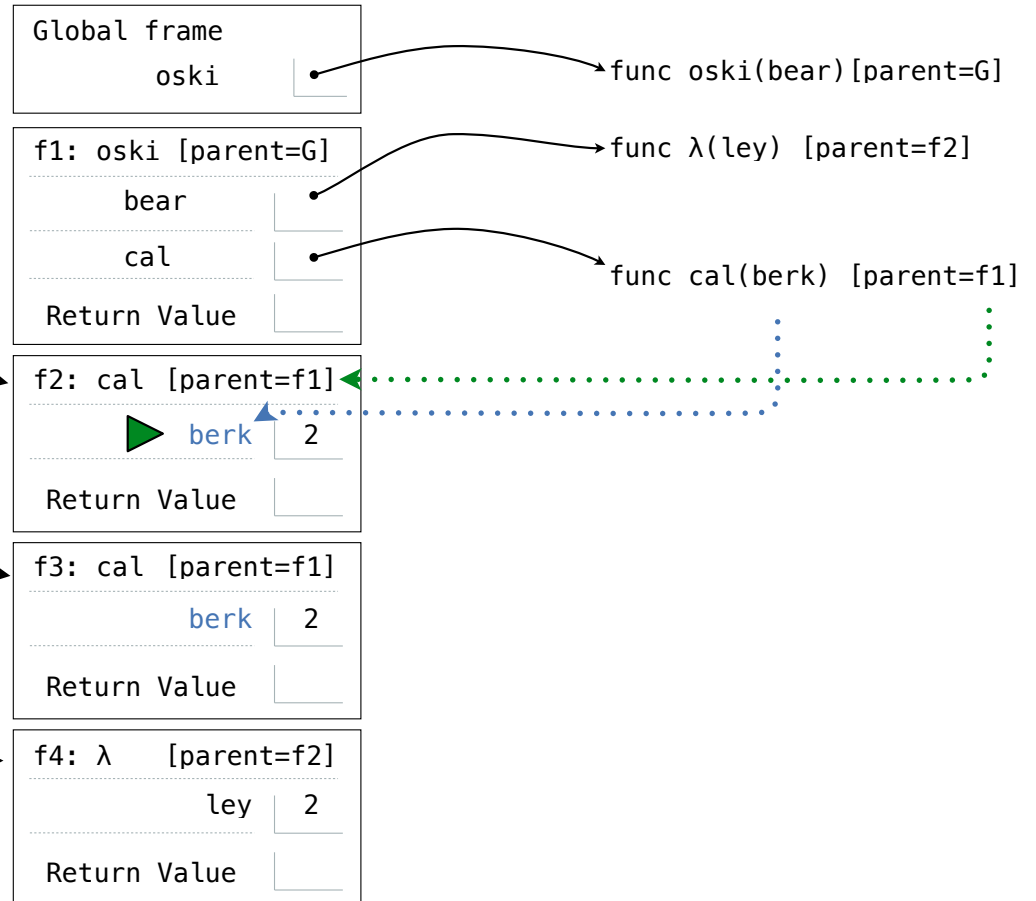
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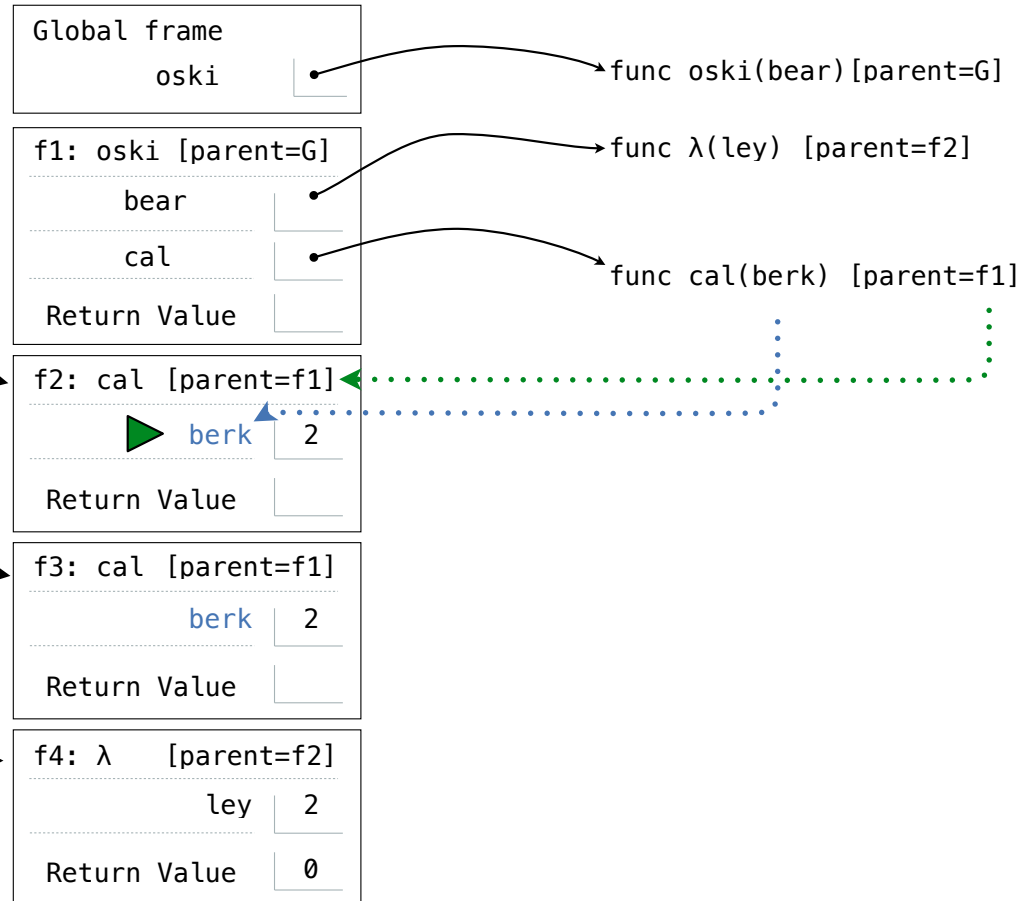
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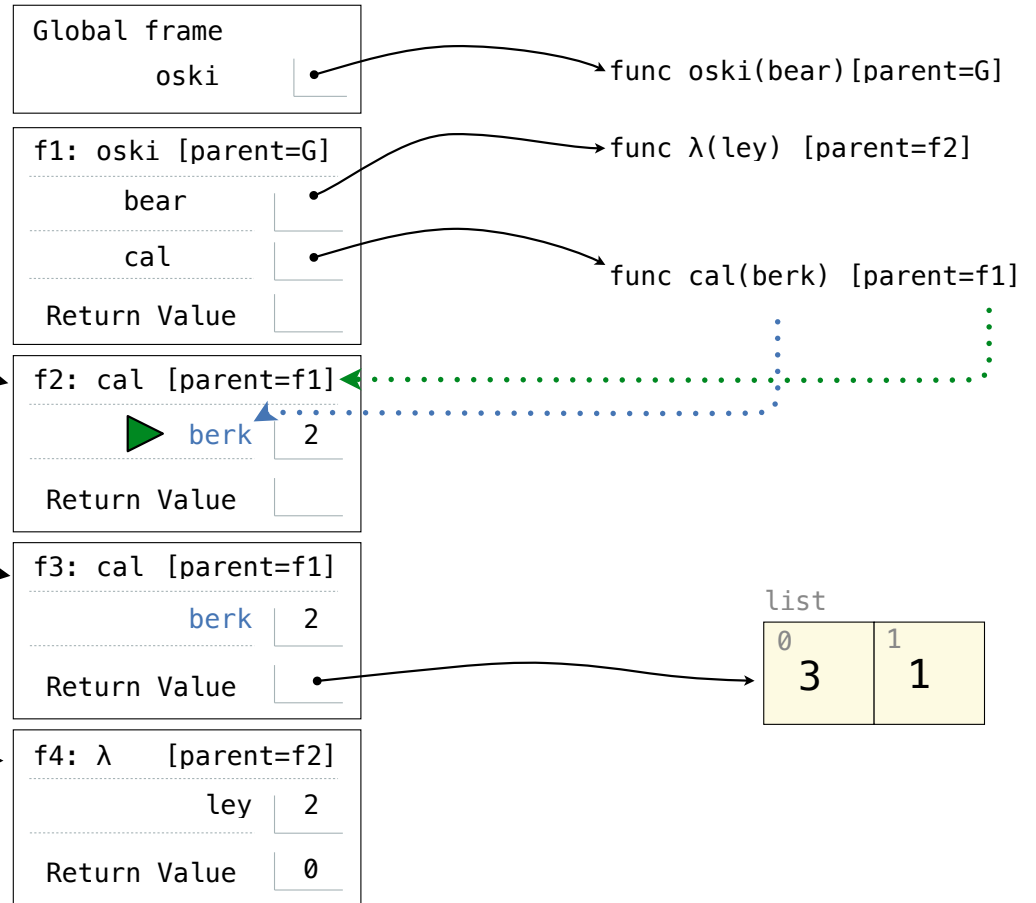
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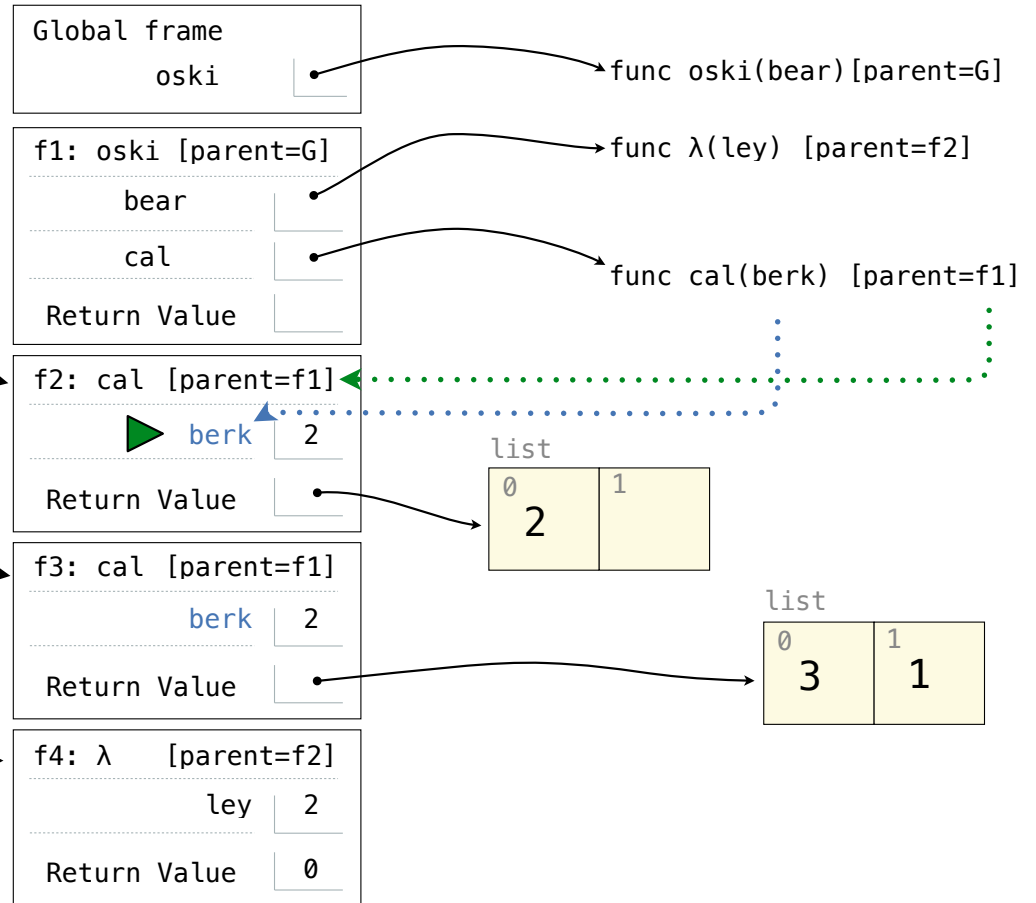
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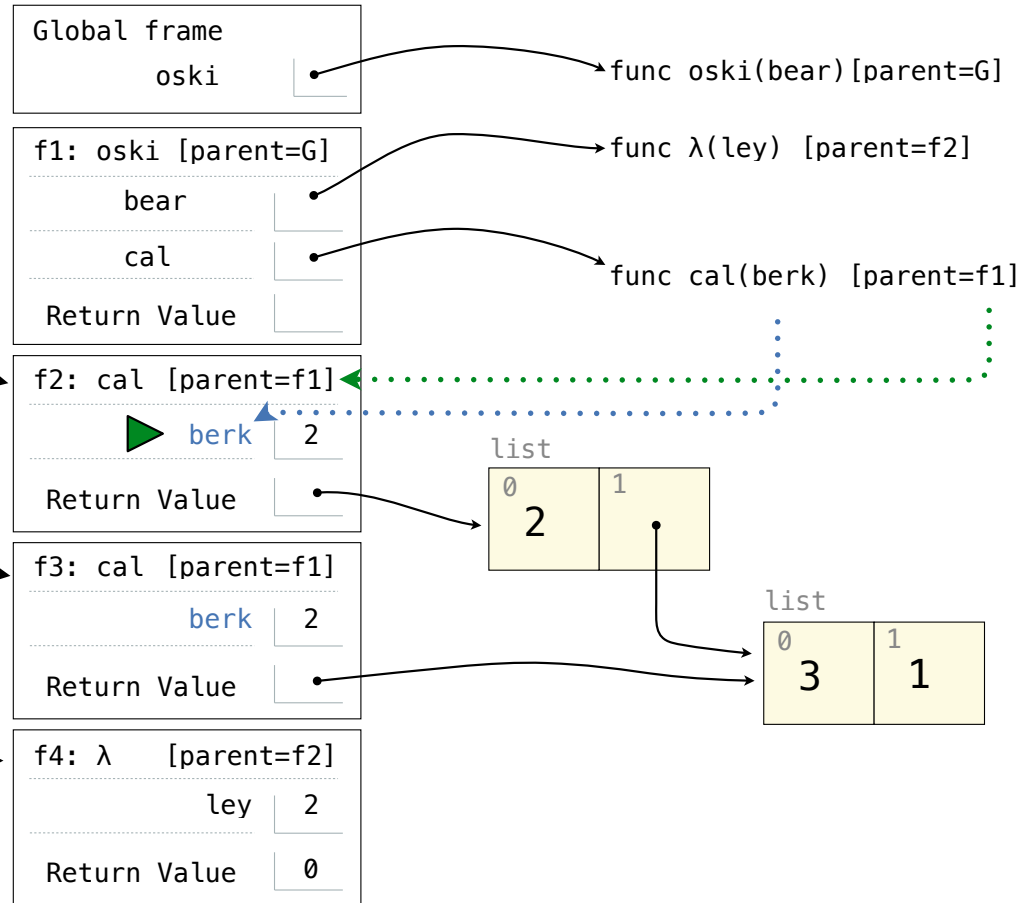
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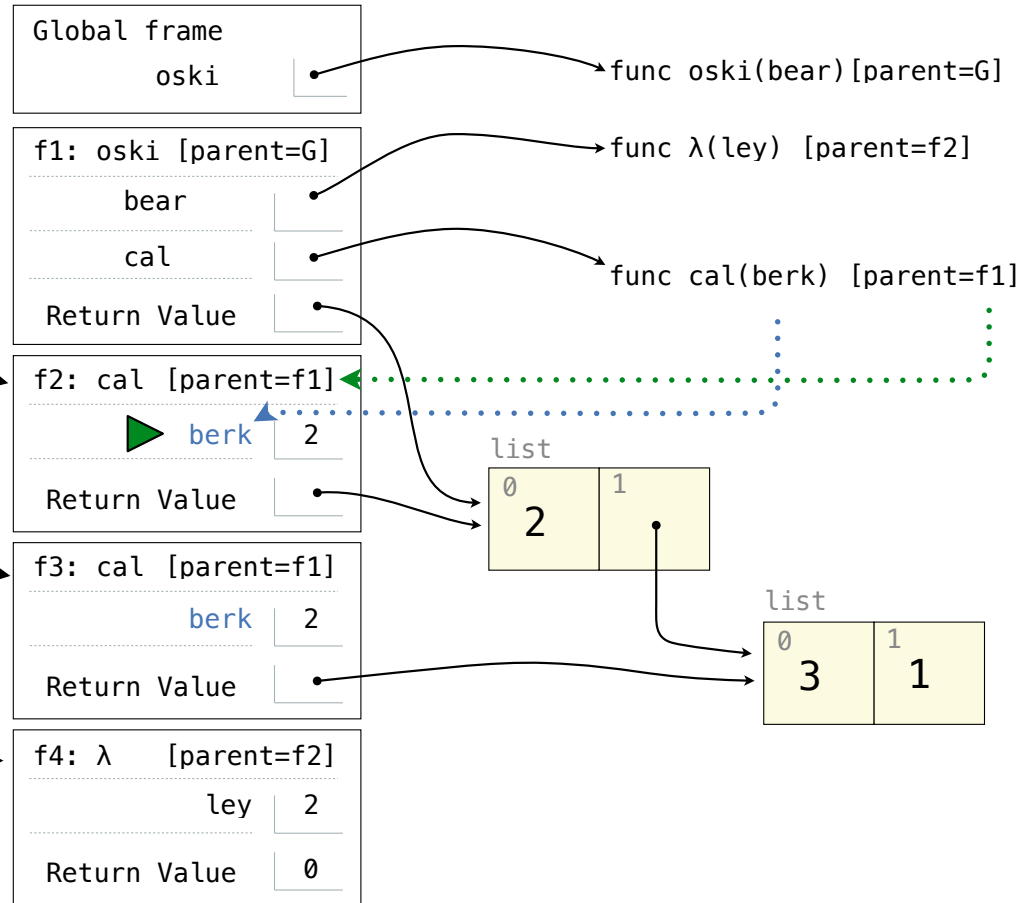
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