

# CSC148 Worksheet 17 Solution

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## Question 1

- We need to implement the base case for this function.

The docstring tells us the function does nothing if <obj >is an int.

Using this fact, we can write that

```
1  def add_one(obj: Union[int, List]) -> None:
2      """Add one to every number stored in <obj>. Do nothing if <obj
3      > is an int.
4      If <obj> is a list, *mutate* it to change the numbers stored.
5      >>> lst0 = 1
6      >>> add_one(lst0)
7      >>> lst0
8      1
9      >>> lst1 = []
10     >>> add_one(lst1)
11     >>> lst1
12     []
13     >>> lst2 = [1, [2, 3], [[[5]]]]
14     >>> add_one(lst2)
15     >>> lst2
16     [2, [3, 4], [[[6]]]]
17     """
18
19     if isinstance(obj, int):
20         return obj
```

Listing 1: worksheet\_17\_q1\_solution.py

### Correct Solution:

We need to implement the base case for this function.

The docstring tells us the function does nothing if <obj >is an int.

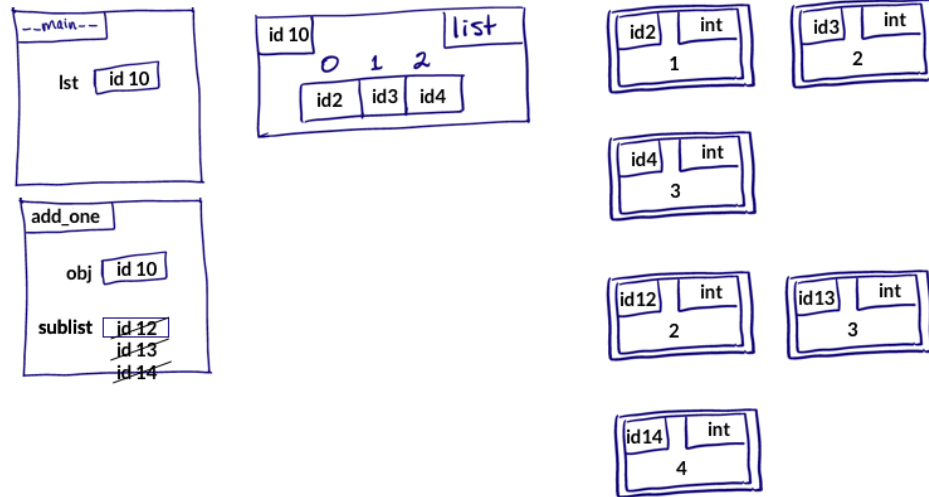
Using this fact, we can write that

```
1      from typing import Union, List, Optional
2
3      def add_one(obj: Union[int, List]) -> None:
4          """Add one to every number stored in <obj>. Do nothing
5          if <obj> is an int.
6          If <obj> is a list, *mutate* it to change the numbers
7          stored.
8
9          >>> lst0 = 1
10          >>> add_one(lst0)
11          >>> lst0
12          1
13          >>> lst1 = []
14          >>> add_one(lst1)
15          >>> lst1
16          []
17          >>> lst2 = [1, [2, 3], [[[5]]]]
18          >>> add_one(lst2)
19          >>> lst2
20          [2, [3, 4], [[[6]]]]
21          """
22
23          if isinstance(obj, int):
24              # ===== Correction =====
25              pass
26
27          if __name__ == '__main__':
28              import doctest
29              doctest.testmod()
30          # =====
```

Listing 2: worksheet\_17\_q1\_solution.py

## Question 2

- No values in *obj* would change.



### Question 3