CSC110 Lecture 12: For Loops



Exercise 1: Practice with for loops

1. Consider the following function.

```
def sum_of_squares(numbers: list[int]) -> int:
    """Return the sum of the squares of the given numbers.

>>> sum_of_squares([4, -2, 1]) # 4 ** 2 + (-2) ** 2 + 1 ** 2
21
    """
sum_so_far = 0

for (number) in numbers:
    sum_so_far = sum_so_far + number ** 2

return sum_so_far
```

a. What is the loop variable?



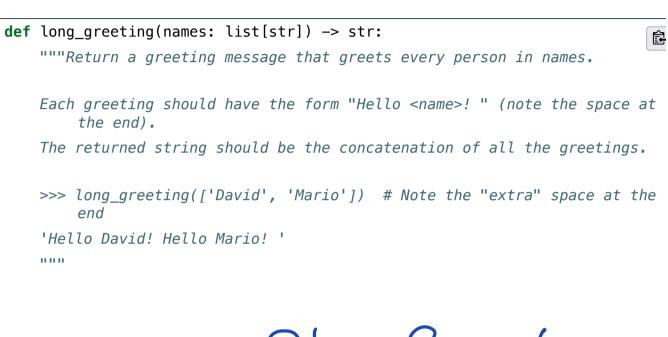
b. What is the accumulator?

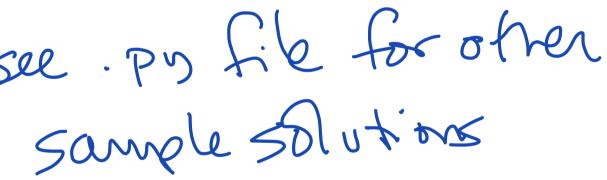
c. Fill in the loop accumulation table for the call to function $sum_of_squares([4, -2, 1])$.

Iteration	Loop variable (number)	Loop accumulator (sum_so_far)
0	N/A	0

Iteration	Loop variable (number)	Loop accumulator (sum_so_far)
1	4	16
2	-2	20
3		21

2. Implement the following function.





Exercise 2: Marriage licenses, re-revisited

In Lecture 10, we saw how to query marriage license data using a nested list (i.e., list[list]). In Lectu 11, we saw how to use data classes to store the marriage license data using a list of MarriageData (i.e., list[MarriageData]):