#4 Nonlocals & Mutation

TA: Jerry Chen (jerry.c@berkeley.edu)

Traveling on vacation is often considered a "nonlocal" experience.
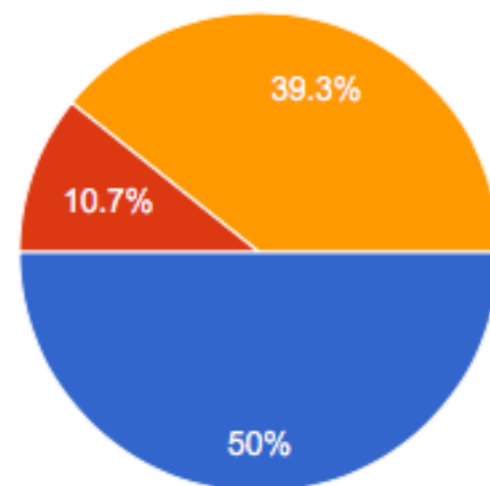
Feedback

Thanks!

- Majority of people think current pace is ok

- A few think it's too fast/too slow

- Note on participation

Would you rather be a sky diver afraid of heights or a scuba diver afraid of water?

28 responses

- ● Acrophobic sky diver
- ● Aquaphobic scuba diver
- ● Oh my gosh how neat I just realized that those both have diver in the name

39.3%

10.7%

50%

```python
1 def g(x):
2     def f():
3         x = 10
4         x = x + 2
5     f()
6     print(x)
7 g(20)
```

```python
1 def g(x):
2     def f():
3         x = x - 8
4     f()
5     print(x)
6 g(20)
```

Nonlocal

Old rule: you cannot modify variables outside your frame

New rule: you can modify, but must specify with nonlocal

```python
1 def g(x):
2     def f():
3         nonlocal x
4         x = x - 8
5     f()
6     print(x)
7 g(20)
```

List Mutation

- Recall that slicing a list makes a copy

- Can also modify a list "in place"

List Mutation

Common operations

```
lst.append(x) # Add x to the end of lst

lst += [x] # Does the same thing

lst = lst + [x] # NOT the same! Creates
a copy of lst

lst[0] = x # Assigns to index 0
```

Dictionaries Demo