Data Examples

Announcements

Examples: Objects

Land Owners

Instance attributes are found before class attributes; class attributes are inherited

```python
class Worker:
    greeting = 'Sir'
    def __init__(self):
        self.elf = Worker
    def work(self):
        return self.greeting + ', I work'
    def __repr__(self):
        return Bourgeoisie.greeting

class Bourgeoisie(Worker):
    greeting = 'Peon'
    def work(self):
        print(Worker.work(self))
        return 'I gather wealth'

jack = Worker()
john = Bourgeoisie()
jack.greeting = 'Maam'
```

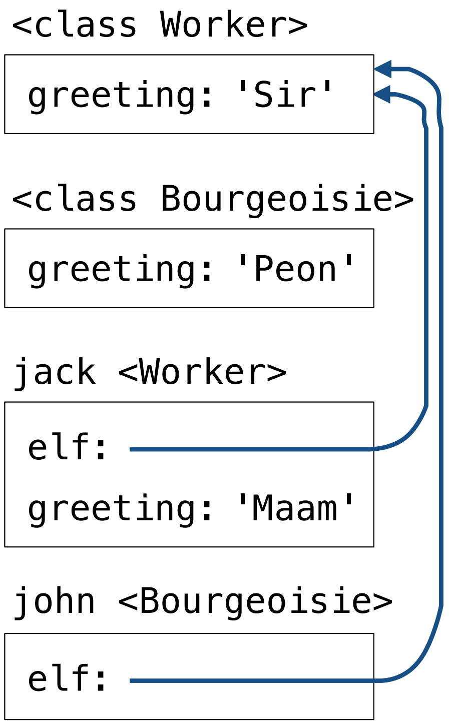
```
>>> Worker().work()
'Sir, I work'

>>> jack
Peon

>>> jack.work()
'Maam, I work'

>>> john.work()
Peon, I work
'I gather wealth'

>>> john.elf.work(john)
'Peon, I work'
```



<class Worker>

greeting: 'Sir'

<class Bourgeoisie>

greeting: 'Peon'

jack <Worker>

elf:

greeting: 'Maam'

john <Bourgeoisie>

elf:

Examples: Iterables & Iterators

Using Built-In Functions & Comprehensions

What are the indices of all elements in a list s that have the smallest absolute value?

```
[-4, -3, -2,  3,  2,  4] ▷ [2, 4]        [1, 2, 3, 4, 5] ▷ [0]
  0   1   2   3   4   5
```

What's the largest sum of two adjacent elements in a list s? (Assume len(s) > 1)

```
[-4, -3, -2,  3,  2,  4] ▷ 6             [-4,  3, -2, -3,  2, -4] ▷ 1
```

Create a dictionary mapping each digit d to the lists of elements in s that end with d.

```
[5, 8, 13, 21, 34, 55, 89] ▷ {1: [21], 3: [13], 4: [34], 5: [5, 55], 8: [8], 9: [89]}
```

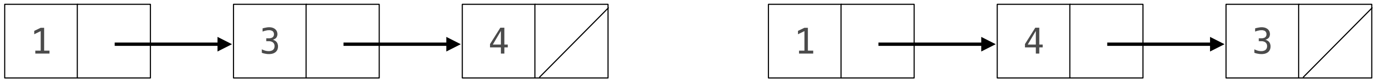
Does every element equal some other element in s?

```
[-4, -3, -2,  3,  2,  4] ▷ False         [4, 3, 2, 3, 2, 4] ▷ True
```

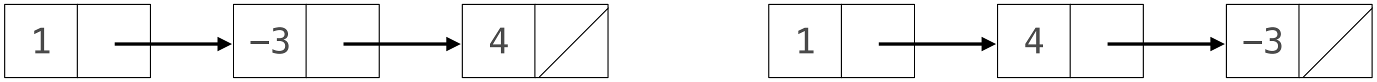
Examples: Linked Lists

Linked List Exercises

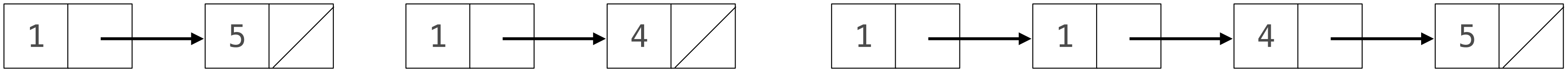
Is a linked list s ordered from least to greatest?



Is a linked list s ordered from least to greatest by absolute value (or a key function)?



Create a sorted Link containing all the elements of both sorted Links s & t.



Do the same thing, but never call Link.