Data Examples
Announcements
Examples: Objects
Land Owners

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

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'

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

jack <Worker>
    greeting: 'Sir'
    elf: <class Worker>

〈class Worker〉
    greeting: 'Sir'

〈class Bourgeoisie〉
    greeting: 'Peon'
    elf: <class Worker>

jack <Worker>
    greeting: 'Maam'

john <Bourgeoisie>
    elf: <class Worker>
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?

\[-4, -3, -2, 3, 2, 4\]  \( \begin{array}{c} \rightarrow \end{array} \)  \( [2, 4] \)  \( \begin{array}{c} \rightarrow \end{array} \)  \( [0] \)

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

\[-4, -3, -2, 3, 2, 4\]  \( \begin{array}{c} \rightarrow \end{array} \)  6  \( \begin{array}{c} \rightarrow \end{array} \)  \[-4, 3, -2, -3, 2, -4\]  \( \begin{array}{c} \rightarrow \end{array} \)  1

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

\[5, 8, 13, 21, 34, 55, 89\]  \( \begin{array}{c} \rightarrow \end{array} \)  \{1: [21], 3: [13], 4: [34], 5: [5, 55], 8: [8], 9: [89]\}

Does every element equal some other element in \( s \)?

\[-4, -3, -2, 3, 2, 4\]  \( \begin{array}{c} \rightarrow \end{array} \)  False  \( \begin{array}{c} \rightarrow \end{array} \)  \[4, 3, 2, 3, 2, 4\]  \( \begin{array}{c} \rightarrow \end{array} \)  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.