

es2 20 11-16-20

11

lab3: 1 more day (last!)

Pub: ext. 2 days

Exercise

write a function

def findAll(s, ch):

return a list of all index positions
in s at which ch is found. if
ch is not in s, return [].

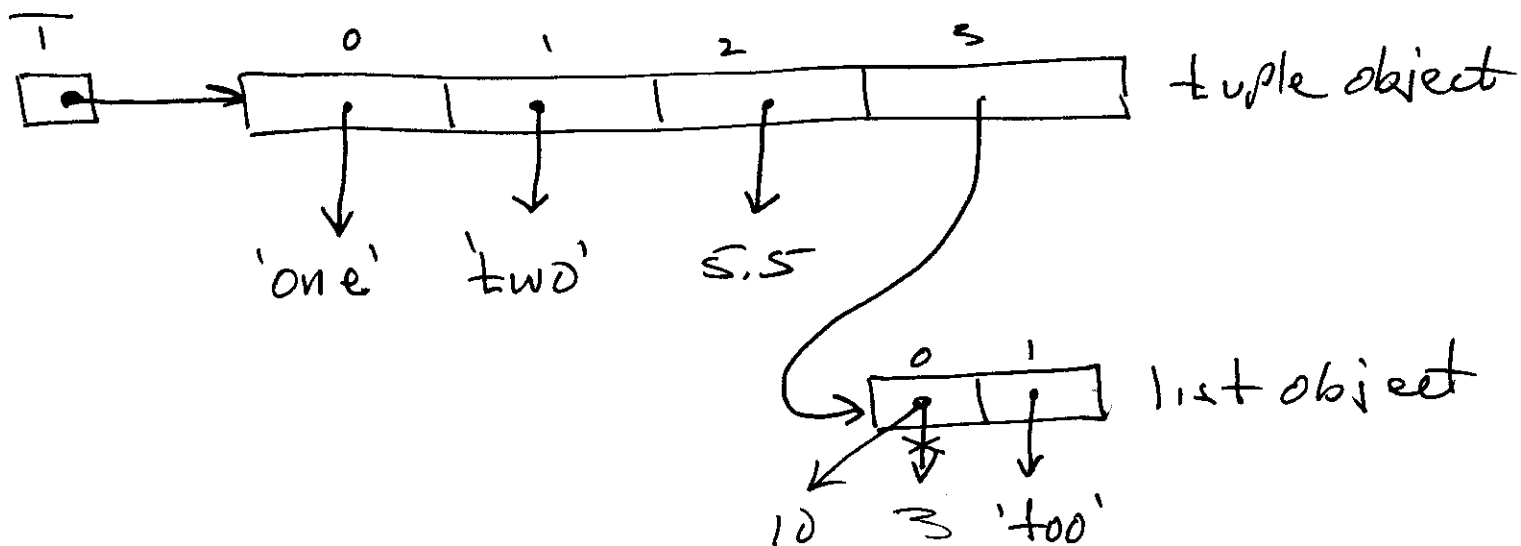
Hint: see LinearSearch2.py

chap 12: Tuples

A tuple is an immutable list.

Ex.

$T = ('one', 'two', 5.5, [3, 'too'])$



$T[0]$ # evaluates to 'one'

$T[-1]$ # $[3, 'too']$

$T[-2]$ # 5.5

$$\neg [3][0] \neq 3$$

$T[3][L] \neq \text{'foo'}$

$$T[3][0] = 10$$

$$\perp [: z] \neq ('one', 'two')$$

 $x = 5$

$$Y = 6$$

$$S = (x, y)$$

$$L = [x, y]$$

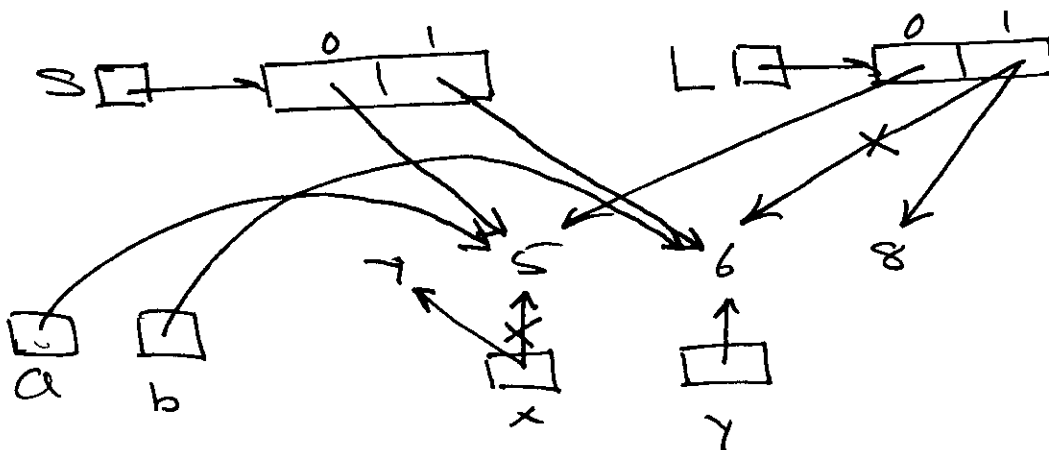
$$x = 7$$

$$L[1] = 8$$

$S[1] = 9 \neq \text{error}$

$\Sigma.append(50)$ $\neq$ error

```
L.append(50) # fine
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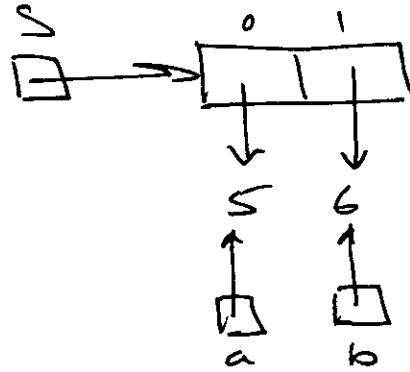


Can do variable assignments
with lists.

$$(a, b) = s$$

$$a \neq s$$

$$b \neq 6$$

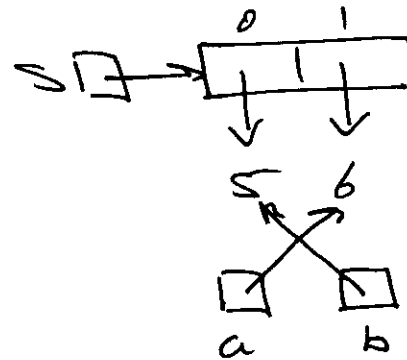


easy way to swap!

$$(a, b) = (b, a)$$

$$a \neq 6$$

$$b \neq s$$



note: Parentheses are unnecessary

$a, b = b, a$ ~~same thing~~.

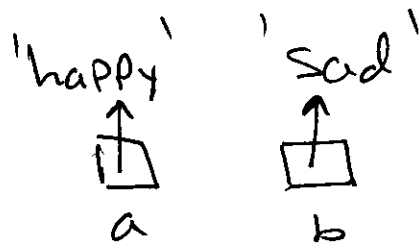
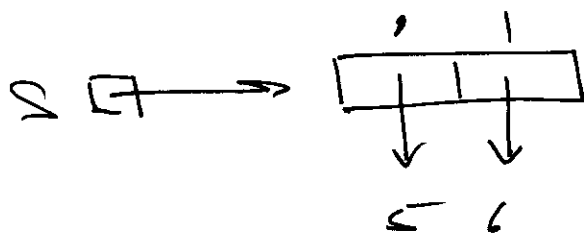
$a, b = \text{'happy'}, \text{'sad'}$

$a \rightarrow \text{'happy'}$

$b \rightarrow \text{'sad'}$

S is unchanged!

new Picture:



A tuple is a nice way for a function to return multiple values.

Ex circle4.py

notes on Part 7:

Dice.py

DiceProbability

FormatNumbers1.py

FormatNumbers2.py

} examples.