

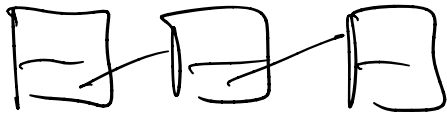
Lecture 15, 8 October 2026

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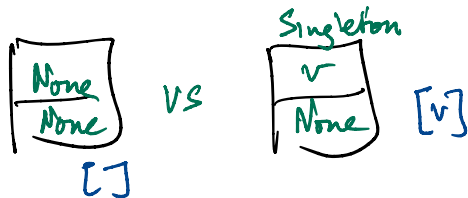
Programming and Data Structures with Python

Lists as a class



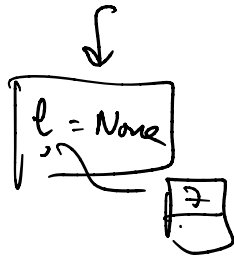
class List:-

Empty list - None? X



`l.insert(7)`

`l` is empty

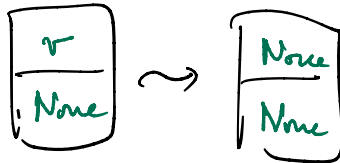
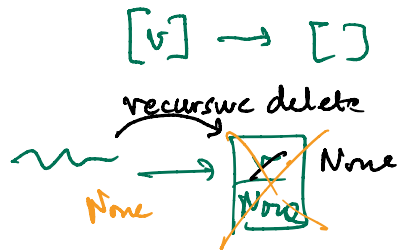


No nodes



inside a list

Recursive delete (v)



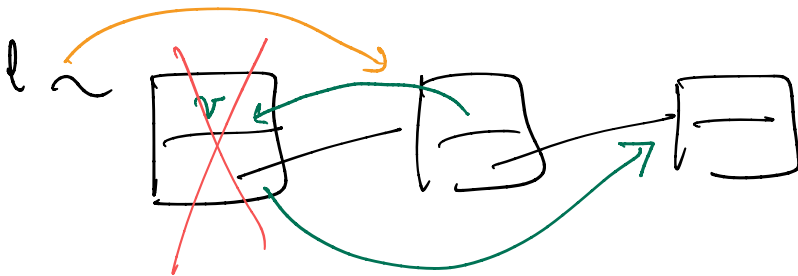
Constructor

$l = \text{List}()$ creates an empty list

Append the values

$l = \text{List}([1, 2, 3]) \rightsquigarrow$ 

$l = [1, 2, 3] \rightsquigarrow l = \text{List}([1, 2, 3])$



Simple input & output

```
print(a, b, --, x)
```

$x = 15$

```
print("The value of x is 0", x)
```

The value of x is 15

Implicit space separator,
new line

```
x = int(s, base=16)
```

```
print(x, y, sep=",", end="\n")
```

What about reading in values into the program?

```
x = input()
```

 ← User types a line, stored in x
Always a string

Add a message

```
u = input("Type something=")
```

Input an integer:

```
xstr = input("Enter an integer: ")
```

```
x = int(xstr)
```

What if `xstr` is not compatible with `int()`?

Exception handling

Error — Fatal — e.g divide by 0

Exception — Can “trap” and take corrective action

“Exceptional situation”

try :

int(xstr) *

=====
=====
=====

except :

=====
=====
=====

Code that
may bomb

Corrective
action

A general point

Python blocks
cannot be empty

Use

pass

as a dummy stmt

try :

===

except ErrType1:

===

except ErrType2:

==

except:

===

Functions can generate exceptions

Can we generate Exceptions in our own code?

List has only positive numbers

`l.append(-5)` $\leadsto$ generate exception