

NPTEL MOOC

PROGRAMMING, DATA STRUCTURES AND ALGORITHMS IN PYTHON

Week 5, Lecture 6

Madhavan Mukund, Chennai Mathematical Institute

<http://www.cmi.ac.in/~madhavan>

Doing nothing

- * Recall: reading a number from the keyboard

```
while(True):  
    try:  
        userdata = input("Enter a number: ")  
        usernum = int(userdata)  
    except ValueError:  
        print("Not a number. Try again")  
    else:  
        break
```


Doing nothing

- * What if we just want to repeat the loop on an error?

```
while(True):  
    try:  
        userdata = input("Enter a number: ")  
        usernum = int(userdata)  
    except ValueError:  
        # Do nothing  
    else:  
        break
```


Doing nothing

- * Blocks such as `except:`, `else:`, ...cannot be empty
- * Use `pass` for a null statement

```
while(True):  
    try:  
        userdata = input("Enter a number: ")  
        usernum = int(userdata)  
    except ValueError:  
        pass  
    else:  
        break
```


Removing a list entry

- * Want to remove `l[4]`?

`del(l[4])`

- * Automatically contracts the list and shifts elements in `l[5:]` left
- * Also works for dictionaries
- * `del(d[k])` removes the key `k` and its associated value

Undefineding a value

- * In general, `del(x)` removes the value associated with `x`, makes `x` undefined

```
x = 7  
del(x)  
y = x+5
```

`NameError: name 'x' is not defined`

Checking undefined name

- * Assign a value to `x` only if `x` is undefined

```
try:  
    x  
except NameError:  
    x = 5
```


The value `None`

- * `None` is a special value used to denote “nothing”
- * Use it to initialise a name and later check if it has been assigned a valid value

```
x = None
```

```
...
```

```
if x is not None:  
    y = x
```

- * Exactly one value `None`

- * `x is None` is same as
`x == None`

Summary

- * Use `pass` for an empty block
- * Use `del()` to remove elements from a list or dictionary
- * Use the special value `None` to check if a name has been assigned a valid value