Numpy

Python for Ecologists

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Overview

- Install Numpy
- Array
- Indexing
- Matrix
- Reference

Install Numpy

- Windows
  - Official
    http://sourceforge.net/projects/numpy/?source=dlp
  - Unofficial (Windows binaries)
    `http://www.lfd.uci.edu/~gohlke/pythonlibs/`
  - Portable Python
    http://portablepython.com/wiki/PortablePython2.7.5.1/

Mixing types

- Can be used to track properties of individuals in an individual-based model

```
male43 = {"sp":"Orca", "bw":10., "status":"suscept"}
male43["status"] = "infected"
male43
```

- Dictionary name (e.g., male43) can be nested and itself be a key

```
male4 = {"male43" : male43}
male4
male4['male43']["status"]
```

Using variables to map dictionaries

```
bw_grams = {}
frog = 'Cricket_frog'
weight = '10'
bw_grams['frog'] = frog
bw_grams['weight'] = weight
```

Deleting a key

- Compare

```
del bw_grams['infected']
bw_grams.pop('infected')
```

Other methods

- List all contents

```
bw_grams.items()
```

- List keys

```
bw_grams.keys()
```

- List values

```
bw_grams.values()
```

- Iterable

```
tmp= bw_grams.iteritems()
for i in tmp:
  print i
```

- Compare

```
for i in bw_grams:
  print j
```