# Write Better Python

## lambda expressions

Joanna Power
May 2016

# What are they?

Anonymous functions that evaluate a single expression.

i.e. `lambda x: x*x`

# What aren't they?

A good place for complicated or reusable code.

# HOW DO I WRITE ONE?

```
lambda x: x**3
```

# HOW DO I USE ONE?

```
a = [1,2,3]
map(lambda x: x**3, a)
-> [1,8,27]


filter(lambda x: x%2 == 0, a)
-> [2]
```

# HOW DO I AVOID THEM?

```
a = [1,2,3]
[x**3 for x in a]
-> [1,8,27]
```

```
[x for x in a if x%2 == 0]
-> [2]
```

# Recap

- Lambda expressions are used to define short, simple anonymous functions.
- Mainly used with map, filter, sort, and UI programming.
- You can write Python without them, but you need to understand them.

# Recommended resources

- https://pythonconquerstheuniverse.wordpress.com/2011/08/29/lambda_tutorial/
- http://python-history.blogspot.com/2009/04/origins-of-pythons-functional-features.html