### **Effective Programming Practices for Economists**

## **Basic Python**

**Defining Functions** 

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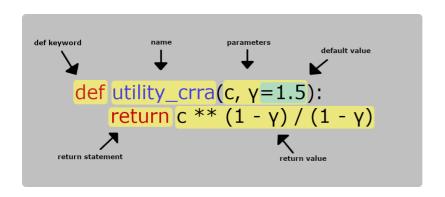
#### **Contents**

- Anatomy of functions
- Examples of functions
- Why functions are important!

## **Example: CRRA Utility function**

$$u(c,\gamma) = rac{c^{(1-\gamma)}}{1-\gamma}$$

## **Anatomy of Python functions**



- Start with the `def` keyword
- Name is `lowercase\_with\_underscores`
- There can be one or several parameters (a.k.a. arguments)
- You can assign default values for arguments
- Function body is indented by 4 spaces and can have one or several lines
- Inside the body you can do everything you have seen so far!

# **Example: CRRA Utility function**

```
>>> def utility_crra(c, γ=1.5):
... return c ** (1 - γ) / (1 - γ)
>>> utility_crra(1.0)
-2.0
>>> utility_crra(c=1.0, γ=1.5)
-2.0
>>> utility_crra(c=1.0, γ=0.0)
1.0
```

- Function calls work with positional and keyword arguments
- Pass keyword arguments for any function with more than one argument!

Defining functions like a pro is the most important skill to become a good Python programmer!