

# **Effective Programming Practices for Economists**

## **Basic Python**

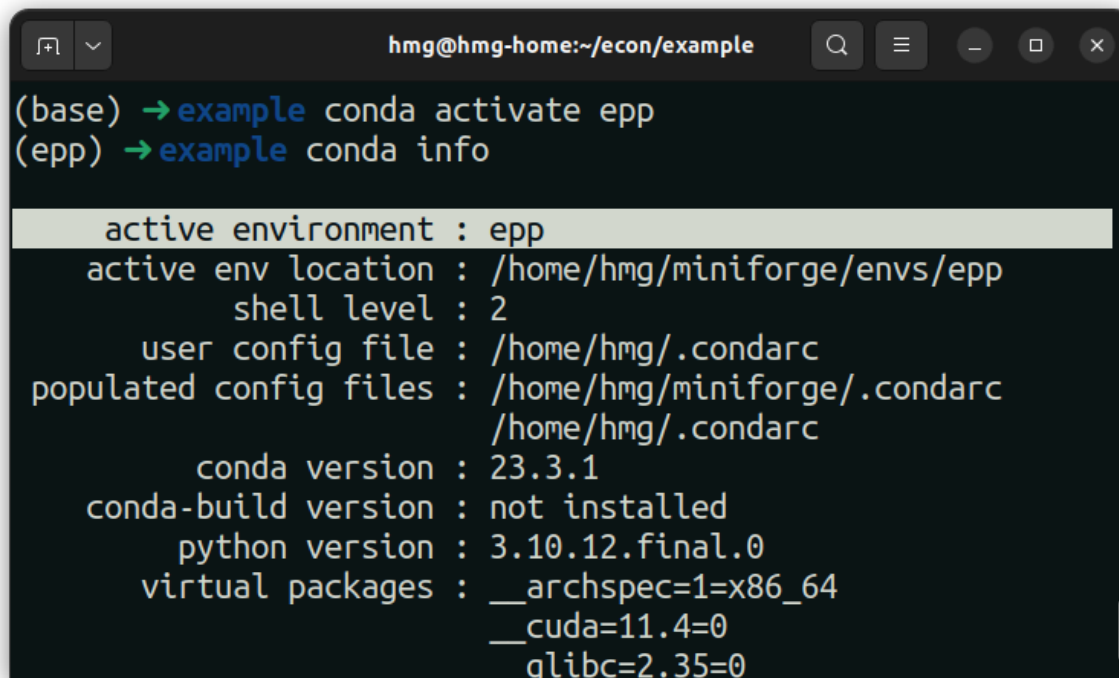
### **Running Python code via pytest**

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# Preparation

- We assume you have installed anaconda and created the course environment
- Open a shell in the root directory of your project
  - On Windows, use the anaconda prompt or the powershell
  - If conda is not recognized in the powershell, check out this [stackoverflow post](#)
- Activate the environment using `conda activate epp`
- Confirm the activation worked using `conda info`

# 0: Activate and Info



```
hmg@hmg-home:~/econ/example
(base) → example conda activate epp
(epp) → example conda info

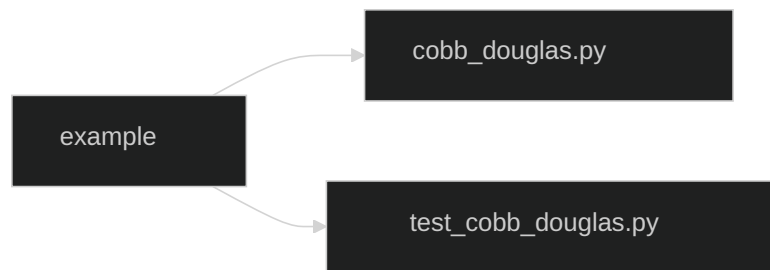
active environment : epp
  active env location : /home/hmg/miniforge/envs/epp
    shell level      : 2
  user config file   : /home/hmg/.condarc
populated config files : /home/hmg/miniforge/.condarc
                      /home/hmg/.condarc
   conda version     : 23.3.1
conda-build version  : not installed
  python version     : 3.10.12.final.0
 virtual packages    : __archspec=1=x86_64
                      __cuda=11.4=0
                      __libc=2.35=0
```

# How does pytest execute code?

- Executing .py files: Run the entire file
- Executing notebooks: Run individual cells
- Pytest: Run individual functions in multiple .py files

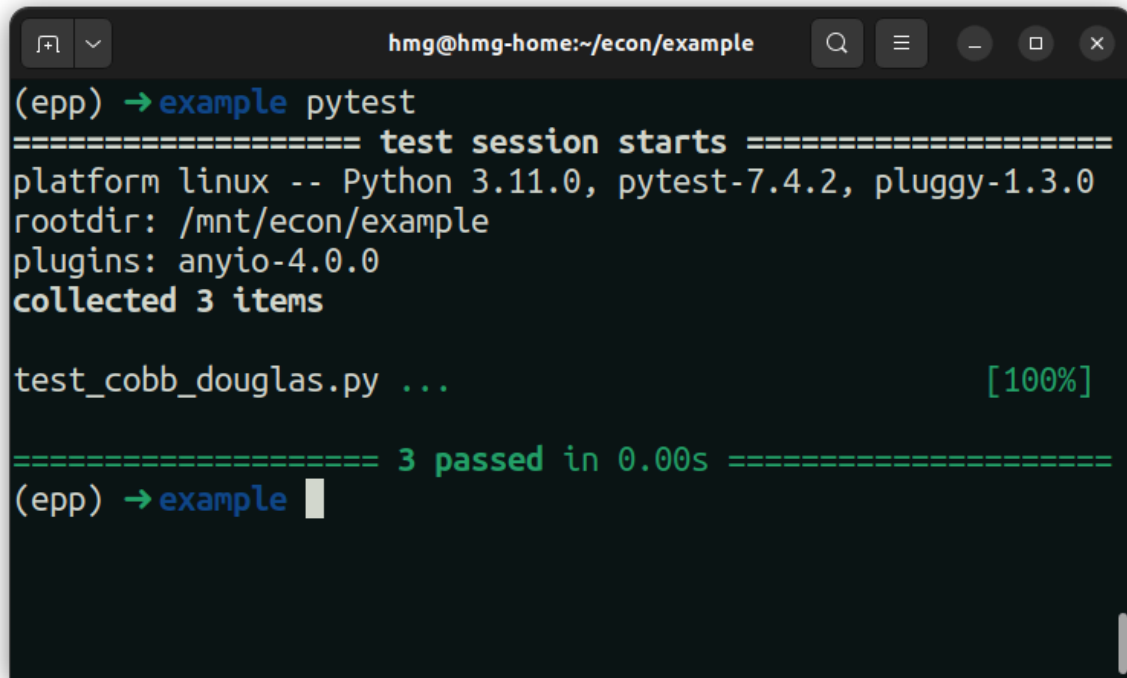
Very useful for automating test execution across an entire project

# Example Project Structure



- Our shell is in the `example` directory
- We want to run all functions that start with `test_` in `test_cobb_douglas.py`
- Could be spread across multiple test files, across different subdirectories
- Command is `pytest`

# 1: Execute

A terminal window with a dark background and light-colored text. The window title is 'hmg@hmg-home:~/econ/example'. The prompt is '(epp) → example'. The command 'pytest' has been executed. The output shows the start of a test session, the platform (linux), Python version (3.11.0), pytest version (7.4.2), pluggy version (1.3.0), rootdir (/mnt/econ/example), and plugins (anyio-4.0.0). It then shows 'collected 3 items'. The test file 'test\_cobb\_douglas.py' is listed with a progress bar at [100%]. The final result is '3 passed in 0.00s'. The prompt is now '(epp) → example' with a cursor.

```
hmg@hmg-home:~/econ/example
(epp) → example pytest
===== test session starts =====
platform linux -- Python 3.11.0, pytest-7.4.2, pluggy-1.3.0
rootdir: /mnt/econ/example
plugins: anyio-4.0.0
collected 3 items

test_cobb_douglas.py ... [100%]

===== 3 passed in 0.00s =====
(epp) → example
```