

Effective Programming Practices for Economists

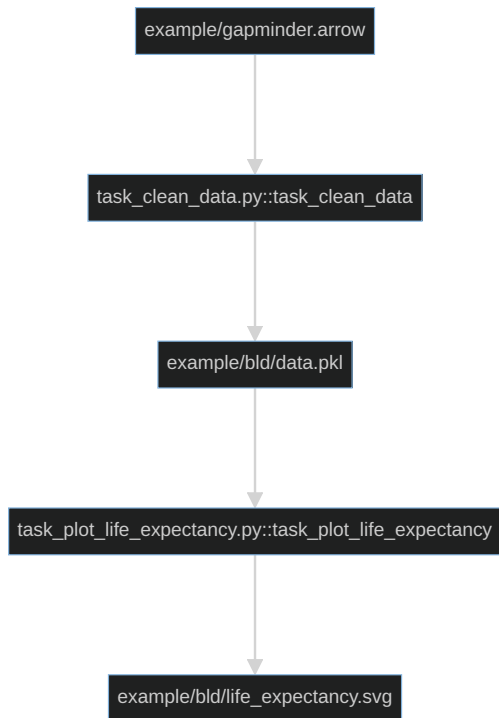
Reproducible Research

Writing simple (py)tasks

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Back to the tiny example



- How do we actually write these tasks?
- How do we tell pytask what is a dependency and what is a product?
- Remember:
 - pytask looks for modules called ``task_XXX.py``
 - Inside these modules, pytask looks for functions called `task_XXX`

Contents of task_clean_data.py

```
from pathlib import Path

import pandas as pd

BLD = Path(__file__).parent / "bld"

def task_clean_data(raw_file=Path("gapminder.arrow"), produces=BLD / "data.pkl"):
    raw = pd.read_feather(raw_file)
    clean = _clean_data(raw)
    clean.to_pickle(produces)

def _clean_data(raw):
    df = raw.rename(
        columns={
```

Contents of task_plot_life_expectancy.py

```
def task_plot_life_expectancy(  
    data_file=BLD / "data.pkl",  
    produces=BLD / "life_expectancy.svg",  
):  
    df = pd.read_pickle(data_file)  
    fig = _plot_life_expectancy(df)  
    fig.write_image(produces)  
  
def _plot_life_expectancy(df):  
    return df.plot(  
        x="year",  
        y="life_exp",  
        color="country",  
        title="Life Expectancy",  
    )
```

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Basic rules

- Put tasks in modules called `task_XXX.py` , with functions `task_YYY`
- For these functions, set `pathlib.Path` objects as default arguments:
 - Default of reserved keyword `produces` for products
 - Any other default arguments become dependencies
- Inside these functions, keep structure clear:
 - Read input (usually some data)
 - Execute task (usually in a different function, potentially calling other functions)
 - Write output