Effective Programming Practices for Economists

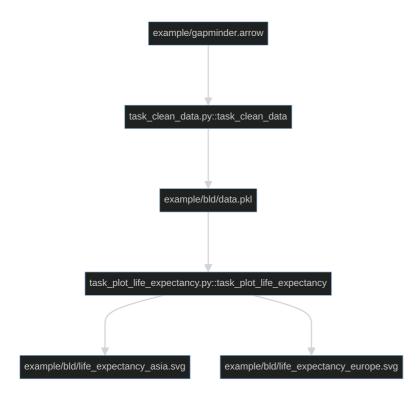
Reproducible Research

Writing (py)tasks with multiple outputs

Janoś Gabler and Hans-Martin von Gaudecker

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Tiny example, extended



 How do we tell pytask that we have two products for

```
task_plot_life_expectancy ?
```

How would we tell pytask that we had more than one dependency?

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

```
BLD = Path(__file__).parent / "bld"
products = {
    "Asia": BLD / "life_expectancy_asia.svg",
    "Europe": BLD / "life_expectancy_europe.svg"
def task_plot_life_expectancy(
    data_file=BLD / "data.pkl",
    produces=products,
    df = pd.read_pickle(data_file)
    for region, fig_file in produces.items():
        fig = _plot_life_expectancy(df[df["continent"] == region])
        fig.write_image(fig_file)
```

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Multiple dependencies and products

- Defaults to keyword arguments may hold
 - a single pathlib.Path
 - a container of pathlib.Path objects
 - Container may be nested, so long as the atomic elements are pathlib.Path objects
- For dependencies, can pass as many different arguments with defaults as you like