

Principles of Programming in Econometrics

Introduction, structure, and advanced programming techniques

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Overview

Principles of Programming in Econometrics

D0: Syntax, example 2⁸

D1: Structure, scope

D2: Numerics, packages

D3: Optimisation, speed

Day 2: Numerics and flow

9.30 Numbers and representation

- ▶ Steps, flow and structure
- ▶ Floating point numbers
- ▶ Practical Do's and Don'ts
- ▶ Packages
- ▶ Graphics

13.30 Practical

- ▶ Cleaning OLS program
- ▶ Loops
- ▶ Bootstrap OLS estimation
- ▶ Handling data: Inflation

Do's and Don'ts

The do's:

- + Use commenting through DocString for each routine, consistent style, and inline comments elsewhere if necessary
- + Use consistent indenting
- + Use Hungarian notation throughout (exception: counters i, j, k, l etc)
- + Define clearly what the purpose of a function is: *One* action per function for clarity
- + Pass only necessary arguments to function
- + Analyse on paper before programming
- + Define debug possibilities, and use them
- + Order: Header – DocString – Code
- + Debug each bit (line...) of code after writing

Do's and Don'ts

The don'ts:

- Multipage functions
- Magic numbers in middle of program
- Use globals `g_vY` when not necessary
- Unstructured, spaghetti-code
- Program using 'write – write – write – debug'...