Effective Programming Practices for Economists

Debugging

Introduction to debugging

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What is debugging

- Debugging means fixing code that does not do what it should
- Two main situations
  - Your code does not run
  - Your code runs but you know the results are wrong
- Debugging is a skill that can be learned

Why debugging is is important

- According to studies, programmers spend between 25 and 50 % of their time debugging
- There are huge differences in debugging efficiency of different programmers!
- We need to spend some effort to:
    - Avoid debugging
    - Be better at debugging

The two modes (Eisenstadt, 1993)

- **Inspeculation**, a hypbrid of:
    - "inspection" (code inspection),
    - "simulation" (hand-simulation),
    - and "speculation".
    - No experimentation, but "thinking about" the code.
- **Data gathering**
    - What we usually think of when talking about debugging
    - What a debugger can make drastically more efficient
- Striking parallel to the scientific method