

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)

- **Inspection**, a hybrid 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