

# Re: Maple Vs Mathematica debugging

---

*Source:* <http://sci.tech-archive.net/Archive/sci.math.symbolic/2005-12/msg00069.html>

---

- *From:* "Richard J. Fateman" <[fateman@xxxxxxxxxxxxxxxxxxxx](mailto:fateman@xxxxxxxxxxxxxxxxxxxx)>
  - *Date:* Mon, 05 Dec 2005 14:18:11 -0800
- 

carlos@xxxxxxxxxxxxxxxx wrote:

The reviewer prefers the Maple GUI and front end, and found the lack of a Mathematica debugger annoying.

Lack of a debugger is most annoying to beginner users, but there are in fact 3 major builtin pieces missing in the kernel:

- 1) incremental debugger (or even a plain debugger)
- 2) error tracer
- 3) real-time breakpointer and "cook-timer"

I wonder: is there a functional language based application that now includes those 3 components? The old vaxima (Lisp based) I used during 1982-88 had some rudiments of 1) and 3)

I am not sure what you mean exactly by the three pieces. Lisp code (and programs written in Lisp) generally allow

1. stepping through code or selected pieces of code "one step at a time".
2. a "backtrace" which tells you, when you have encountered an error, where it happened and what the sequence of active calls was.
3. A "break" facility by which you can insert a "pause" and then look at backtraces etc, perhaps change values, and then continue. It is also usually possible to get into a "break" by hitting a key, e.g. the "break"

## Re: Maple Vs Mathematica debugging

key, during a program execution. Sometimes it is hard to get the attention of the program though.

Why might this be troublesome in Mathematica?

I think that contributing to the difficulty of debugging Mathematica code (or even writing a useful debugger for Mathematica) is the disparity between what the user thinks he is writing (programs) and what Mathematica is executing (pattern-replacement rules). So the failure of Mathematica to reflect what the user is trying to do may be based on the fact that Mathematica is doing something else entirely, at least some of the time.

The reviewer in the cited article had a particular highly oscillatory integral that Mathematica could numerically integrate and Maple could do only very slowly. It seems to me that the method could be added to Maple without much difficulty, and also the method might be irrelevant to most people trying to decide between the two programs. Nevertheless, the reviewer seemed quite upfront about how he formed his opinion.

.