

Re: unexpected result

Source: http://coding.derkeiler.com/Archive/C_CPP/comp.lang.c/2006-03/msg01742.html

- *From:* Michael Mair <Michael.Mair@xxxxxxxxxxxxxxxxxxx>
 - *Date:* Sun, 12 Mar 2006 12:46:23 +0100
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Richard G. Riley schrieb:

On 2006-03-12, Richard Heathfield <invalid@xxxxxxxxxxxxxxxxxxx> wrote:

jaysome said:

<snip>

<dialogue>

Son: "Dad, I want to learn how to program in C."

Dad: "Son, although I admire your goal, I've been reading a lot in CLC

lately, and based on what they're saying in there, I'm pretty shocked

about how a simple, honest mistake you might make could lead to

formatting my hard drive. So I have to say no on this one."

In 1989, I was learning C. The guy sitting next to me was learning C too. He omitted to provide sufficient storage for a string. (He was just one byte short.) When the program ran, he saw pretty much what he expected to see, just general student-program output, you know the stuff – and then, at the bottom there, it said something like:

"Do you really want to format C: (Y/N)?"

He was **very** fortunate. The result of this particular instance of undefined behaviour appears to have been a jump into "the system" – and if it had jumped just a bit further, he could well have had his hard drive formatted without being asked. No, I'm not making this up.

Yes you are :) Scare mongerer you ... Sounds more like you modified his program to make him pap his kecks ...

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That seems to be an unfair accusation.

It was clearly a PC then? DOS?

The following year, I'd managed to find a job as a C programmer. A colleague of mine had clearly been on the Intermediate C course and the Advanced C course, but had unaccountably failed to turn up for the Basic C course. He made *exactly the same error* (i.e. an array that was one byte too short for the string being stored there), and this time it did actually trash the machine, to the extent that it wouldn't even boot until we started feeding diagnostic diskettes into it.

If he had done an advanced C course and an Intermediate C course then he presumably knew about buffer issues in C. It is impossible that he didn't or his intermediate and his advanced programs would have failed too.

Considering the people with which I had the dubious pleasure to be at the receiving end of a job interview... Many had excellent references and shiny documents proving their excellence but were stumped after a couple of intermediate level questions. When going back to basic level questions, I still found enough gaps in their knowledge. From my point of view, passing an advanced or better level course only means that the person should know about such things but not that he or she actually does.

Good C programmers frequently get the count wrong on array traversal : and it doesn't cause your hard disk to get erased. All programmers are human.

Well, in 99.99999999999999% of the cases. The old "n-1" will haunt C programmers for years no matter good : its experience which means we avoid it most of the time.

(Oh and did I mention a good debugger would catch it too ..)

And electric fence or valgrind could catch even the ones you did not expect.

Your "Dad" character is quite right. Leave C well alone unless you're prepared to spend the time and effort it takes to get it right.

Alternatively, jump in there with a good book and have a lot fun learning the language. If you worried that your hard disk would melt

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for every out of control memory access you have in C then trust me, C would be history by now.

That is true; however, I once upon a time managed to kill 80 percent of a harddisk's contents by an off-by-one error when writing a Copper list. And it was not much fun to bring it back floppy disk by floppy disk (as far as possible).

I did not follow it through but essentially missing memory protection made it possible for the computer to run off wildly through memory unfortunately encountering only legal opcodes until most of the harddisk sectors contained only rubbish while I thought that I should have given the task a higher priority and why is the harddisk LED glowing...

Cheers
Michael

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E-Mail: Mine is an /at/ gmx /dot/ de address.

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