

Re: passing pointers [C]

Source: <http://coding.derkeiler.com/Archive/C/ CPP/alt.comp.lang.learn.c-cpp/2004-07/0198.html>

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On Thu, 08 Jul 2004 20:17:30 GMT, Stephen Ramsay <sramsay@uga.edu> wrote:

>I've got a problem that probably stems from some fundamental
>misunderstandings on my part.
>
>My app has to concatenate strings to build up a bunch of SQL queries
>(some elements of which aren't known until runtime. Now, I realize that
>I could malloc some space, concatenate the first two, malloc some more,
>concatenate again, but this seems less than elegant. So, I thought I
>>would create a separate cat_string function that would take in the
>strings, do that malloc, and return a new string.
>
>The problem with this implementation, is that while it works (compiles
>and produces the expected behaviour), it's leaking memory all over the
>place -- I assume because it's really creating new copies and failing to
>de-allocate the old ones.

Since you only call realloc, there is no way for old allocations not to be released. Your problem stems from the fact that you are using it incorrectly and invoking undefined behavior.

>
>Be that as it may, it seems to me that the most efficient way to do this
>>would be to keep passing in the current string (the one that is being
>gradually built up) and realloc-ing its memory block. When all the
>concatenations are completed, it could then just free that one block.
>
>In my limited understanding of C, I start to think, "Hmm. Something to
>do with passing addresses, um, help . . ."
>
>So, here's some (toy) code. It's really a mess -- seg faults every time
>-- and it's really just the latest iteration of "well, let's try this."
>It should, though, give you an idea of what I'm trying to do. If anyone
>can give me a hint, I'd really appreciate it.
>
>#include <stdio.h>