

Re: Strange behavior with pointers

Source:

<http://www.tech-archive.net/Archive/DotNet/microsoft.public.dotnet.languages.vc/2005-02/0440.html>

From: Bo Persson (*bop_at_gmb.dk*)

Date: 02/16/05

Date: Wed, 16 Feb 2005 18:24:53 +0100

"John" <John@discussions.microsoft.com> skrev i meddelandet
news:0B171982-A60E-4666-A7A6-E9E11B940F31@microsoft.com...

> *I have created a program that accesses a flat 2 dimensional array and*
> *have*
> *developed a routine to sum the four neighbors of a specific row/column*
> *position.*
>
> *Here is an example, this will sum all the values of row 1, column 1*
> *(base 0)*
> *which is the number 5*
>
>
> *int a[9] = {1,2,3,4,5,6,7,8,9};*
> *int* pa = &a[3]; // row 1, column 0 (i.e. number 4)*
> *int n = *(pa++); // n = 4*
> *n += *(++pa); // n = 10 (4 + 6)*
> *n += *(--pa - 3); // n = 12 (10 + 2)*
> *n += *(pa + 3); // n = 20 (12 + 8)*
>
> *Now here is the strange part if I combine all the code above into one*
> *statement*
>
> *n = *(pa++) + *(++pa) + *(--pa - 3) + *(pa + 3);*
>
> *I don't get the same results, instead of 20 I get 18. Am I missing*
> *something*
> *here is this a compiler or programming error?*
>

You cannot modify the same value (pa) more than once in each expression.
The order of evaluation is not defined in C and C++, so you cannot
predict the outcome. The compiler is allowed to do whatever it likes.

Bo Persson