
Subject: Re: analogue vector type in C++ for IDL ?
Posted by [penteado](#) on Sun, 06 Dec 2009 01:33:59 GMT
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On Dec 5, 9:53 pm, "skymaxw...@gmail.com" <skymaxw...@gmail.com> wrote:

> Good day !
>
> Does IDL have some instrument like vector type in C++ ?
> I have array MxN, but it's fixed. I want insert some rows there. How ?

Not like C++, which in this case is a big advantage of IDL, as it has much nicer semantics. I find the C++ STL too awkward for more than 1D, which is why I tend to make my own templates to use C++ vectors in a similar way to IDL's arrays.

Note that in IDL arrays are column-major (the fastest varying dimension is the leftmost), the opposite of C++.

A few examples to give you just a taste of the semantics:

```
a=[1,2,3,4]
print,a
; 1 2 3 4
a=[a,5,6,7]
print,a
; 1 2 3 4 5 6 7
a=[a[0:3],-1,-2,a[4:6]]
print,a
; 1 2 3 4 -1 -2 5
6 7
a=bindgen(2,3)
print,a
; 0 1
; 2 3
; 4 5
a=[a,transpose([-1,-2,-3])]
print,a
; 0 1 -1
; 2 3 -2
; 4 5 -3
a=[a,[[ -4,-5],[-6,-7],[-8,-9]]]
print,a
; 0 1 -1 -4 -5
; 2 3 -2 -6 -7
; 4 5 -3 -8 -9
a=bindgen(2,3)
print,a
```

```

; 0 1
; 2 3
; 4 5
a=[[a],[-1,-2]]
print,a
; 0 1
; 2 3
; 4 5
; -1 -2
a=[[a],[[-3,-4],[-5,-6]]]
print,a
; 0 1
; 2 3
; 4 5
; -1 -2
; -3 -4
; -5 -6
a=[1,2,3]
print,a
; 1 2 3
a=reform(a,1,3)
print,a
; 1
; 2
; 3
a=rebin(a,2,3)
print,a
; 1 1
; 2 2
; 3 3

```

Also very useful are the ability to index multidimensional arrays by single indices, use vector indices, treat contiguous slices as if the remaining dimensions (to the right) did not exist, routines that work with any number of dimensions, and some very powerful functions to use and manipulate arrays, like `where`, `value_locate`, `array_indices`, `rebin`, `reform`, and `histogram`.

A few good references are

http://www.dfanning.com/tips/array_concatenation.html
http://www.dfanning.com/tips/rebin_magic.html

And others in David's site.