Subject: Re: idl2matlab translate-o-matic
Posted by Craig Markwardt on Tue, 22 Feb 2000 08:00:00 GMT
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Pavel Romashkin <pavel@netsrv1.cmdl.noaa.gov> writes:

>> What can you say of a language that is purely array oriented, but
>> cannot comprehend the existence of an empty array?
>
> Agreeing with D.F., I so far had no use for an empty array. I
> understand it is not flexible, but I usually work on data other than
> nothing.

Forgive him, he knows not what he says.

Empty arrays would be invaluable in both indexing (such as with WHERE) and array concatenation. By invaluable, I mean that it would remove a lot of the special casing. Consider these examples:

```
ARRAY INDEXING - indexing with where()
 *With* an empty array:
   wh = where(array GT thresh, /EMPTY)
   array(wh) = 0   ;; indexing with empty array has no effect
 *Without* an empty array
   wh = where(array GT thresh, count)
   if count GT 0 then array(wh) = 0

ARRAY CONCATENATION - growing an array
 *With* an empty array:
   l = empty_array()
   for i = 0, 100 do if expression(values) then l = [l, values]
 *Without* an empty array:
   for i = 0, 100 do $
     if expression then $
       if n_elements(l) EQ 0 then l = [values] else l = [l, values]
```

As you can see, the "with" code is more simple and easy to read. The "without" (which represents the status quo) has special cases which ruin the flow of thought. For a vectorized language, this is a painful burden to bear sometimes. If you don't believe me, try doing the following (apparently simple) problem:

* given two arrays, A and B: concatenate all but the last two elements of A, with B. Don't try [A(0:n-3),B], or you will be in a world of hurt.

Craig

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