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Subject: Re: idl2matlab translate-o-matic

Posted by [John-David T. Smith](#) on Tue, 22 Feb 2000 08:00:00 GMT

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Craig Markwardt wrote:

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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:
>   I = empty_array()
>   for i = 0, 100 do if expression(values) then I = [I, values]
> *Without* an empty array:
>   for i = 0, 100 do $
>     if expression then $
>       if n_elements(I) EQ 0 then I = [values] else I = [I, 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.
>
```

I wouldn't say a \*world\* or hurt. Maybe a minor planetesimal of hurt:

```
C=n_elements(A)>2?[A[0:n_elements(A)-3],B]:B
```

JD

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