
Subject: idl versus matlab

Posted by [Gareth Mottram - RSG](#) on Thu, 20 Nov 2003 16:51:04 GMT

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I have to admit this is a slightly frivolous post, but here goes.
A guy in my office insists that matlab is better for multivariate stats in image analysis than IDL, I doubt whether this is correct but I don't have any examples to prove him wrong, or indeed to prove me wrong.

Anyone out there have opinions/comments/examples?

g

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Subject: Re: idl versus matlab

Posted by [George N. White III](#) on Fri, 21 Nov 2003 18:17:34 GMT

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On Thu, 20 Nov 2003, Gareth Mottram - RSG wrote:

- > I have to admit this is a slightly frivolous post, but here goes.
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- > in image analysis than IDL, I doubt whether this is correct but I don't
- > have any examples to prove him wrong, or indeed to prove me wrong.
- >
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Matlab pales in comparison to J and APL for elegance.

The S language (e.g., R) is nice for stats. One factor that makes S so nice to use is the well-designed support for missing data. In addition to

the usual IEEE NaN and Inf values, there is 'NA':

```
> x<-c(0:4,NA) ; 1/x
[1]      Inf 1.00000000 0.50000000 0.33333333 0.25000000      NA
> c(mean (1/x), mean (1/x,na.rm=T))
[1] NA Inf
> x[1]<-NA ; c(mean (1/x), mean (1/x,na.rm=T))
[1]      NA 0.5208333
```

'NA' is implemented using distinguished values. Every operation has to test for these values. That is a lot of overhead if you don't need it. It is, however, a huge time-saver if the alternative requires you to type 'where(...)' dozens of times (especially if you are like me and have to think a few minutes to remember whether you are supposed to use 'A lt B' or 'A .lt. B' or 'A < B'). Some people try to use NaN/Inf for this, but the overhead for NaN/Inf processing is typically much higher, and you can miss problems like logs of negatives in your code.

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