Subject: Re: Using value_locate with a non-monotonic vector! And it's working!??!
Posted by btt on Tue, 02 Jan 2007 17:12:28 GMT
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Gianguido Cianci wrote:
> Hi all,
>
> I am using value_locate on a unsorted vector and I am a little worried
> because the IDL manual does not really say what happens in that case. I
> would greatly appreciate your opinion and suggestions...
>
> Say I have an unsorted vector of non-unique sparsely distributed
> numbers a:
>
> a=[4.3, 4.3, 2.1, 10000,2.1]
>
> and I want to create a 1 to 1 map to a list of consecutive numbers that
> indicate ranking...
> What I do is:
>
> b=a[uniq(a,sort(a))]
> c=value_locate(b,a)
> print, c
> 1 1 0 2 0
>
> the variable c is exactly what I want in this case.
>
> The arrays I am going to deal with are much longer (10x1e6 elements) so
> i can't really check them...
>

Hi,

You are right that VALUE_LOCATE requires that the first argument be monotonic, but the second is not subject to the same requirement. What you have shown is that your first argument (b) is monotonic... at least it looks right to me.

That is a pretty big array that you will be searching. You might search a recent discussion about how efficient VALUE_LOCATE is compared to a fixed look-up table. (I think it was Greg Michael who posted the original question.) VALUE_LOCATE repeatedly cuts the vector (in this case b) in half as it works to narrow down the 'width' of the search area. That is pretty quick - but it will still have to do that for every element in your second argument (a).

Ben