Subject: Another "How to efficiently do this in IDL" question
Posted by Robin Wilson on Fri, 21 Oct 2011 22:15:09 GMT
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Hi all,

I've got a 2D integer array. For every cell in the array I want to do the following:

1. Get the points that lie on a horizontal profile 7 cells long, with the current cell as the central cell.

2. Find out if there are two (or more) points on both sides of the central point that have a lower value than the central point. If so, then mark this point in a separate array.

I can think of loads of ways to do this using very inefficient for loops and lots of horrible code, but are there any particularly nice ways to do this in IDL.

It looks to me like I'd have to loop over every cell in the array - it's not something I could do all at once - but I'm willing to be corrected.

The other main question is that if I've got an array of points like the following:

```
1 3 3 5 6 2 1
      *
```

What is an efficient way to check that there are at least two points on each side of the central point (marked with a star) that have a lower value than it. My original thought was to loop through the cells, but I suspect some fancy histogram command could do something to help with this...

Any advice would be most appreciated.

Cheers,

Robin

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Subject: Re: Another "How to efficiently do this in IDL" question
Posted by JDS on Thu, 03 Nov 2011 21:56:10 GMT

On Friday, October 21, 2011 6:15:09 PM UTC-4, robintw wrote:
>
> The other main question is that if I've got an array of points like the
> following:
>
> 1 3 3 5 6 2 1
>   *
>
> What is an efficient way to check that there are at least two points on
> each side of the central point (marked with a star) that have a lower
> value than it. My original thought was to loop through the cells, but I
> suspect some fancy histogram command could do something to help with this...
>

You can find all the "5 point peaks" relatively efficiently:

wh=where(d gt ((m=median(d,3))) and smooth((d eq m)*(n-2),n-2) eq n-3)

n=5 in your case.