Subject: Re: Finding the index of the median
Posted by Dean Schulze on Tue, 29 Oct 1996 08:00:00 GMT
View Forum Message <> Reply to Message

Joseph M. Zawodny wrote:
>
> Dean Schulze wrote:
>>
>> David Fanning wrote:
>>
>>> Be aware that there can be multiple locations in your
>>> array that are equal to the median value. The index that
>>> is returned by the WHERE function will be an array of
>>> all of those values.
>>
>>   That is exactly why the WHERE() function won't work.
>> I need to know which one of those locations is returned
>> by the MEDIAN() function.

> MEDIAN does not return an element or LOCATION, it returns a
> VALUE which may be held by one or more elements.

    Sorry, careless writing on my part. I should have said
"I need to know the location of the value that is returned
by MEDIAN()".

> Let's try this again: There may be more than one value which
> equals the median value. Therefore the question you ask here
> makes no sense at all without some additional information by
> which to prioritize or otherwise sort those values which are
> equal to the median. Having said that, you should use the
> where function to find pointers to the median values and then
> perform some other task or assessment on those values.
>
> Maybe we would all understand your question better if you tell
> us which element in the following arrays is your "median element"
>
> [1,2,2,3]
>
> [1,2,2,2,3]
>
> One of the above arrays must have at least two "median elements"
> by your definition. How will you choose?
>
>   Or am I just dense?

No, but a part of my original question has been left out. I
said that there are two arrays, one containing data and another
containing noise (noise is not just dependant on N in this case).
I can let MEDIAN() return any of the equivalent median values
in the data array it chooses, but I need to know the location of
the one it chooses so I can get the corresponding value out of
the noise array.

Consider a CCD with a temperature gradient that is known or
can be modeled. There may be several pixels that have the median
value from different points on the CCD, and each of those points
would have a different dark current value due to the T gradient.
In order to determine the S/N ratio of the value returned by MEDIAN()
I need to know the location of that pixel to get the right value
from a noise array (or get the right value of T from a T array).

An unusual situation, but one that MEDIAN() and WHERE() don't
seem to work with.

Dean Schulze

== ==========
"You plot the growth of the NEA [National Education Association] and
the dropping of SAT scores, and they're inversely proportional.
The problems are unions in the schools. The problem is bureaucracy.
I'm one of these people who believes the best thing we could ever do
is go to the full voucher system."

Steve Jobs
Wired Magazine, Feb. 96
http://www.hotwired.com/wired/4.02/features/jobs.html
== =========