Subject: Definition of Median was(Re: Finding the index of the median)
Posted by Thomas A. McGlynn on Wed, 30 Oct 1996 08:00:00 GMT
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In looking at the get the index of the median
value, I noted that the behavior
of the IDL median filter is not what I would have expected.

E.g.,
print, median([1,2,3,10])

prints out 3. This is independent of the order of elements
in the array. Is there an accepted definition of what
the median value is in this case. For example, I might
think 2.5 is a more appropriate choice (but one which would
have made the previous discussion incorrect).

Perhaps more important, if the selection of 3 rather than
2 as the median arises because 3>2, then does the IDL median
function systematically 'overestimate' the median. More precisely
given two values that are reasonably choices for the median
does IDL always choose the later?

I don't like IDL's choice here. In some of my work
I've used a n-dimensional
median definition as the point (or points) at which the
unit to all the array elements sum to zero. This gives
a nice generalization of the concept of median to higher dimensions
but it would require a value (any value) m where 2<m<3 in the
current instance.

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