Subject: Re: Q: Quantil calculation in IDL?
Posted by J.D. Smith on Fri, 15 Oct 1999 07:00:00 GMT
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Joerg Mosthaf wrote:
>
> Hi,
> I have been searching the help files and David Fannings great book, but I can't
> find a way to calculate 25%- and 75%-quantils. Unfortunately I don't know the
> english name for this so let me explain: A 75%-quantil is like the median, but
> with 75% instead of 50% i.e. the number in a data spread, that 75% of all
> data points are less or equal to. Is there a way to do this fast on an
> 256x256 array? I need it to cut off noise at a specific level and to get a
> reliable min/max value, not including data spikes. I am probably overlooking
> something very easy, but I just couldn't find it.
>
> Thanks,
> Joerg Mosthaf

You can of course fully sort the data and then select element p(N-1) of the sorted array where p is your quantile percentage and N is the number of elements in your array.

However, if you're really looking for speed, you may need to consider a *selection* routine (not provided with IDL). The advantage of selection over sorting is that you don't care if everything is in order, just that everything less than the nth largest is to the left of it, everything greater is to the right, in any order. You gain as the log(N) over an optimized full sort. Numerical Recipes provides a nice selection routine, but it probably would be slower than sorting if translated to IDL. Compiling in C or Fortran and linking into IDL would provide the speed-up.

JD

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