
Subject: Re: Find minimums in an array...

Posted by [James Kuyper](#) on Wed, 16 Oct 2002 21:00:35 GMT

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David Fanning wrote:

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>
> James Kuyper (kuyper@saicmodis.com) writes:
>
>>> P.S. Let's just say that *this* is what enlightenment
>>> feels like! :-)
>>
>> I feel somewhat unenlightened. Could you be a little more specific?
>
> Well, I just thought "ten lowest values", what a perfect
> job for the histogram function. Divide your array into
> values, then Histogram it, and starting looking in the
> lowest bins. Keep going until you find 10 values! Find
> the locations by using REVERSE_INDICES.... Oh, oh. Hang
> on a second, I've got to go check with the guru...
>
> http://www.dfanning.com/tips/histogram\_tutorial.html
```

I don't believe that the indices, within each bin, refer to the array entries in sort order. So you'll have to at least sort the elements of the last bin, to get precisely the 10 smallest items. Unless including that bin brings the count to precisely 10.

The efficiency of such an algorithm will depend upon the bin size. The smaller the bin size, the fewer items you'll have to sort in the final bin, but there will be a corresponding increase in the number of bins you'll have to look at. The proper choice will depend a lot upon the distribution of the data. For very clumpy data, this approach won't be significantly faster than the sort-based approach.
