Subject: Re: Help setting up an array
Posted by Jaco van Gorkom on Thu, 29 Mar 2001 15:33:49 GMT
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Peter Thorne wrote:
>
> Jaco van Gorkom wrote:
>
>> Just out of curiosity: did you create this little puzzle just to test
>> our
>> brain cells, or is there a real-world application for this problem?
>
> It is a real world problem, believe it or not! We have a number of
> observational parameters which we wish to regress against possible
> modelled causes in a system containing "noise". Output from this
> regression is effectively a cloud of potential solution points, an
> n-dimensional PDF (probability density function) ellipsoid. Previously
> we have only considered ellipsoids as single pieces of data. However, in
> this system we wish to assess the consistency of the model system and
> therefore need to intercompare m n-dimensional ellipsoids (where m
> distinct realisations are made through the regression analysis).
> Effectively we need to set up a system whereby the null hypothesis is
> that all m fields gained are equivalent (are sub-sampled from some true
> population). To gain a quantitative measure of this statistic it is
> required to integrate the fields over the n-dimensional phase space
> which is common to the m fields and gain the maximum probability
> function from the m fields for this integral. Maximum because the
> ellipsoids are not expected to have equal variance, distributions or
> orientation in the regression phase space.
>
> Well, you did ask ...

Aha, I see.
Let me just compliment you on the excellent description of the
essentials
which you gave in the original post.
Now, as for your notion of "real world"..... :-)