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Subject: Re: Assign data point to n-Dimensional grid  
Posted by [antar3s86](#) on Tue, 26 Jun 2012 07:43:43 GMT  
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Hi

I have manages to find the nearest neighbor for one parameter using something like that

```
ii = VALUE_LOCATE(grid, x)
wh = WHERE((grid[ii+1] - x) LT (x-grid[ii]), ct)
if ct GT 0 then ii[wh] = ii[wh]+1
nn = grid(ii)
```

but I discovered that not all of my parameters are independent. So I split the problem up and located the independent parameters with the procedure above and the dependent ones with a 2-D search using `nearestn` (<http://www.ifa.hawaii.edu/~beaumont/code/nearestn.html>). This is a pure coincidence and if I ever have to face a problem with more dependent parameters I will have to think of something else.

Now I face a different problem which I want to describe with an example:

Suppose my grid consists of three parameters, so e.g. `gridx = [2,5,10]`, `gridy = [10,40,50]`, and `gridz = [100,101,102]`. I need to fit my data point to the first two which can be done with the nearest neighbor method I solved for now. So for two test data points, say, `x = [3,11]`, `y = [8,47]` they will snap to `xs = [2,10]`, `ys = [10,50]` which is the 0th and 2nd position in the grid. From that I want to know which z-value and the third grid is assigned to them.

Any ideas how to solve that, meaning how to know at which position the test data points lie in the grid?

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