
Subject: search routine

Posted by [Laurens](#) on Fri, 01 Jun 2007 10:47:28 GMT

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Hi folks,

From Martin Schultz (posted in 1999) I found the following array-search algorithm which seems to do a fine job.

Except that i'm not able to catch the first element in the array.

Example:

Array = [0,80,100,120,180,300]

result = search, Array, 4.53

It should return index 0, if I understand it correctly, but it returns 1 instead. Now I don't quite follow the logic of the function, so maybe someone for which it's easy to see can help me in the right direction?

```
> function search,data,value
>
>   ; search first occurrence of value in data set
>   ; data must be sorted
>
>   ; simple error checking on data and value
>   if (n_elements(value) eq 0) then begin
>       message,'Must supply sorted data array and value),/CONT
>       return
>   endif
>
>   ndat = n_elements(data)
>
>   try = fix(0.5*ndat)
>   step = 0.5*try
>
>   ; find index of nearest points
>   while (step gt 1) do begin
>       if (data[try] gt value) then $
>           try = try-step $
>       else $
>           try = try+step
>       step = fix(0.5*(step+1))
>   endwhile
>
>   ; now get the data point closest to value
>   ; can only be one out of three (try-1, try, try+1)
>   dummy = min( abs(value-data[try-1:try+1]), location )
>
```

```
> return,try+location-1  
>  
> end
```

Thnx! Laurens
