Subject: Re: Bug in WHERE_ARRAY.PRO
Posted by steele on Mon, 01 Aug 1994 15:15:46 GMT
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Via e-mail, stl@maz.sma.ch (Stephen Strebel) wrote:
> darn, my news server has problems. Below is a copy of the fixed
> function. Could you please do me a favour and post this to the net, I
> will be away on vacation after today. thanks a bunch,

```
;
;+
; NAME:
; where_array.pro
;
; PURPOSE:
;  Return the indices of where vector B exists in vector A.
;  Basically a where(B eq A) where B and A are 1 dimensional arrays.
;
;
; CATEGORY:
;       Array
;
;
; CALLING SEQUENCE:
;  result = where_array(A,B)
;
; INPUTS:
;  A vector that might contain elements of vector B
;  B vector that we would like to know which of its
;    elements exist in A
;
; OPTIONAL INPUTS:
;
; KEYWORD PARAMETERS:
;  iA_in_B  return instead the indices of A that are in
;     (exist) in B
;
; OUTPUTS:
;  Index into B of elements found in vector A.  If no
;  matches are found -1 is returned.  If the function is called
;  with incorrect arguments, a warning is displayed, and -2 is
;  returned (see side effects for more info)
;
; OPTIONAL OUTPUTS:
;
; COMMON BLOCKS:
;  None
;
```

```
; SIDE EFFECTS:
;  If the function is called incorrectly, a message is diplayed
;  to the screen, and the !ERR_STRING is set to the warning
;  message.  No error code is set, because the program returns
;  -2 already
;
; RESTRICTIONS:
;  This should be used with only Vectors.  Matrices other then
;  vectors will result in -2 being returned.  Also, A and B must
;  be defined, and must not be strings!
;
;
; PROCEDURE:
;
; EXAMPLE:
; IDL> A=[2,1,3,5,3,8,2,5]
;       IDL> B=[3,4,2,8,7,8]
; IDL> result = where_array(a,b)
; IDL> print,result
;
; SEE ALSO:
; where
;
; MODIFICATION HISTORY:
;  Written by:  Dan Carr at RSI (command line version) 2/6/94
;    Stephen Strebel  3/6/94
;     made into a function, but really DAN did all
;     the thinking on this one!
;    Stephen Strebel  6/6/94
;     Changed method, because died with Strings (etc)
;     Used ideas from Dave Landers.  Fast TOO!
;    Strebel 30/7/94
;     fixed checking structure check
;
;-
FUNCTION where_array,A,B,IA_IN_B=iA_in_B

; Check for: correct number of parameters
;    that A and B have each only 1 dimension
;    that A and B are defined
if (n_params() ne 2 or (size(A))(0) ne 1 or (size(B))(0) ne 1 $
 or n_elements(A) eq 0 or n_elements(B) eq 0) then begin
 message,'Inproper parameters',/Continue
 message,'Usage: result = where_array(A,B,[IA_IN_B=ia_in_b]',/Continue
 return,-2
endif

;parameters exist, lets make sure they are not structures
```

```
if ((size(A))((size(A))(0)+1) eq 8 or $
 (size(B))((size(B))(0)+1) eq 8) then begin
 message,'Inproper parametrs',/Continue
 message,'Parameters cannot be of type Structure',/Continue
 return,-2
endif

; build two matrices to compare
Na = n_elements(a)
Nb = n_elements(b)
l = lindgen(Na,Nb)
AA = A(l mod Na)
BB = B(l / Na)

;compare the two matrices we just created
l = where(AA eq BB)
Ia = i mod Na
Ib = i / na

; normally (without keyword, return index of B that
; exist in A
if keyword_set(iA_in_B) then index = Ia $
else index = Ib

;make sure a valid value was found
if Ia(0) eq -1 or Ib(0) eq -1 then index = -1

return,index

END
```

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