
Subject: Re: Check if coordinate is in array
Posted by [Chris\[1\]](#) on Thu, 20 Feb 2003 14:36:48 GMT
[View Forum Message](#) <> [Reply to Message](#)

"Thomas Gutzler" <tgutzler@ee.uwa.edu.au> wrote in message
news:3E544CAB.6020006@ee.uwa.edu.au...

> Hi again.

>

> Here is the daily riddle:

> Is there a faster way to check, if a coordinate (2-element array) is

> element of an array of coordinates (2,n-element array) than this:

>

> FUNCTION is_element_of_2D, x, arr

> xidx = WHERE(arr[0,*] EQ x[0], c1)

> yidx = WHERE(arr[1,*] EQ x[1], c2)

> IF (c1 + c2 GT 0) THEN tmp = WHERE(MATRIX_MULTIPLY(xidx, \$

> 1./TRANPOSE(yidx)) EQ 1, c3) ELSE c3 = 0

> RETURN, c3 NE 0

> END

>

Wouldn't it be faster to do the following:

```
;; initialize the return value
```

```
c2 = 0
```

```
;; find the matching first coordinates
```

```
xidx = where(arr[0,*] eq x[0],c1)
```

```
;;search only among coordinates where the first matches
```

```
if c1 gt 0 then yidx = where(arr[1,xidx] eq x[1],c2)
```

```
return, c2 gt 0
```

Note also that it is possible that an element of your yidx might be zero,
which is going to cause you some problems.

Chris
