Subject: Re: replace array's elemets
Posted by btt on Fri, 16 May 2003 16:00:52 GMT

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Roberto wrote:
> Hi
> I have a 100x100 array.
> How can I replace an element if is different from 0?
> I would replace all elements different from 0 with 1.
> thank and sorry for the trouble.
> Roberto

Hi Roberto,

You can use the WHERE function to get the indices of the elements that
match your value (in your case 0). You do need to be a bit careful if
your array is floating decimal type - in that case you must think about
machine precision issues. Search on Google for more info about this.

indices = where(myArray EQ someValue, count)

if count NE 0 then myArray[indices] = 1

If you are new to IDL, I encourage you get one of the very good
introductory manuals that are available. Your won't reget it.

Liam Gumley's   www.gumley.com
David Fanning's www.dfanning.com
Ronn Kling's www.rlkling.com

Cheers,
Ben

Subject: Re: replace array's elemets
Posted by Chris[1] on Fri, 16 May 2003 16:13:57 GMT

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Hi Roberto;

Use the "where" function - as in

(assume x is your 100x100 array)

w = where(x ne 0, count)
if count gt 0 then x[w] = 1

Cheers;

Chris

"Roberto" <graftons@tiscalinet.it> wrote in message
news:4ac6b3e5.0305160733.50173373@posting.google.com...
> Hi
> I have a 100x100 array.
> How can I replace an element if is different from 0?
> I would replace all elements different from 0 with 1.
> thank and sorry for the trouble.
>   Roberto

Subject: Re: replace array's elemets
Posted by Liam E. Gumley on Fri, 16 May 2003 19:04:17 GMT
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"Roberto" <graftons@tiscalinet.it> wrote in message
news:4ac6b3e5.0305160733.50173373@posting.google.com...
> I have a 100x100 array.
> How can I replace an element if is different from 0?
> I would replace all elements different from 0 with 1.
> thank and sorry for the trouble.

```
IDL> a = [0, 1, 2, 3, 0, 5, 6, 7, 0, 9]
IDL> a[*] = a ne 0
IDL> print, a, format='(10i4)'
   0   1   1   1   0   1   1   1   0   1
```

If your array contains floating point values, you should use something like

```
IDL> a = [0.0, 1, 2, 3, 0, 5, 6, 7, 0, 9]
IDL> info = machar()
IDL> value = 0.0
IDL> a[*] = abs(a - value) gt info.eps
IDL> print, a, format='(10f4.1)'
 0.0 1.0 1.0 1.0 0.0 1.0 1.0 1.0 0.0 1.0
```

Cheers,
Liam.
Practical IDL Programming
http://www.gumley.com/

Subject: Re: replace array's elemets
Posted by R.Bauer on Fri, 16 May 2003 20:45:43 GMT

Roberto wrote:

> Hi
> I have a 100x100 array.
> How can I replace an element if is different from 0?
> I would replace all elements different from 0 with 1.
> thank and sorry for the trouble.
>   Roberto

Dear Roberto

I suggest something like this

example data:
x=indgen(100,100)

result:
result=x<1

regards
Reimar

--
Forschungszentrum Juelich
email: R.Bauer@fz-juelich.de
http://www.fz-juelich.de/icg/icg-i/
 == ======
a IDL library at ForschungsZentrum Juelich
 http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_lib_intro. html

Subject: Re: replace array's elemets
Posted by James Kuyper on Fri, 16 May 2003 22:19:32 GMT

Reimar Bauer wrote:
>
> Roberto wrote:
>
>> Hi
>> I have a 100x100 array.
>> How can I replace an element if is different from 0?
>> I would replace all elements different from 0 with 1.

>> thank and sorry for the trouble.
>>   Roberto
>
> Dear Roberto
>
> I suggest something like this
>
> example data:
> x=indgen(100,100)
>
> result:
> result=x<1

That doesn't do the right thing with negative numbers. "result=x ne 0"
is the right choice. More generally,

x[where(x ne 0)] = 1

has the advantage of being more easily generalized to the case of more
complicated search conditions, and different replacement values.
However, it will produce an error message if no replacements are needed.

Subject: Re: replace array's elemets
Posted by R.Bauer on Sat, 17 May 2003 11:13:08 GMT
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James Kuyper wrote:

> Reimar Bauer wrote:
>>
>> Roberto wrote:
>>
>>> Hi
>>> I have a 100x100 array.
>>> How can I replace an element if is different from 0?
>>> I would replace all elements different from 0 with 1.
>>> thank and sorry for the trouble.
>>>   Roberto
>>
>> Dear Roberto
>>
>> I suggest something like this
>>
>> example data:
>> x=indgen(100,100)
>>
>> result:

>> result=x<1
>
> That doesn't do the right thing with negative numbers. "result=x ne 0"
> is the right choice. More generally,
>
> x[where(x ne 0)] = 1
>
> has the advantage of being more easily generalized to the case of more
> complicated search conditions, and different replacement values.
> However, it will produce an error message if no replacements are needed.

and what did you say to this:

print,(abs(x)<1)

I often use myself "where" :-)

regards
Reimar

--
Forschungszentrum Juelich
email: R.Bauer@fz-juelich.de
http://www.fz-juelich.de/icg/icg-i/
 == ======
a IDL library at ForschungsZentrum Juelich
 http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_lib_intro. html

---

Subject: Re: replace array's elemets
Posted by James Kuyper on Sat, 17 May 2003 22:15:53 GMT
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Reimar Bauer wrote:
...
>>> Roberto wrote:
>>>
>>>> Hi
>>>> I have a 100x100 array.
>>>> How can I replace an element if is different from 0?
>>>> I would replace all elements different from 0 with 1.
>>>> thank and sorry for the trouble.
>>>>   Roberto
...
> print,(abs(x)<1)

That works only as long as 'x' is an integer array, which may have been the case. It won't do the right thing x is a floating point array containing some values between 0.0 and 1.0. However, even for integer arrays, I would expect "x ne 0" to be the faster solution.