Subject: Duplicating an array help
Posted by joellama on Fri, 24 Apr 2015 23:02:39 GMT
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I'm not entirely sure how best to phrase what I am trying to do but essentially I am trying to find a function that does something like this (but without the loop):

```
x = findgen(5)
y = x
for i = 0, 100 do y = [y, x]
```

So I then have an array [0,1,2,3,4,0,1,2,3,4...] 100 times. Is there a way of doing this without the loop?

Thanks!

Subject: Re: Duplicating an array help
Posted by don.woodraska on Fri, 24 Apr 2015 23:20:50 GMT
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On Friday, April 24, 2015 at 5:02:42 PM UTC-6, Joe Llama wrote:
> I'm not entirely sure how best to phrase what I am trying to do but essentially I am trying to find a function that does something like this (but without the loop):
>
> x = findgen(5)
> y = x
> for i = 0, 100 do y = [y, x]
>
> So I then have an array [0,1,2,3,4,0,1,2,3,4...] 100 times. Is there a way of doing this without the loop?
>
> Thanks!

This would probably work. It's not very readable, but it's only one line. Your code produces a 510 element array, so I used rebin with 102 as the second dimension then flattend it. I don't know how memory efficient this is.

```
z=(rebin(x,5,102))[*]
```

You can check if it's the same. I ran your example and calculated the sum of squared differences to be 0.

```
print,total((z-y)^2)
      0.00000
```

Don

Subject: Re: Duplicating an array help
Posted by wlandsman on Fri, 24 Apr 2015 23:30:09 GMT
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On Friday, April 24, 2015 at 7:20:51 PM UTC-4, don.wo...@gmail.com wrote:
> On Friday, April 24, 2015 at 5:02:42 PM UTC-6, Joe Llama wrote:

> This would probably work. It's not very readable, but it's only one line. Your code produces a 510 element array, so I used rebin with 102 as the second dimension then flattend it. I don't know how memory efficient this is.
>
> z=(rebin(x,5,102))[*]

Perhaps slightly more readable (or perhaps not) is

z = reform(rebin(x,5,102),510)

It is worth mentioning here one of the classics of the IDL literature, JD Smith's "Dimension Juggling Tutorial":

http://www.idlcoyote.com/tips/rebin_magic.html

Subject: Re: Duplicating an array help
Posted by Jeremy Bailin on Sat, 25 Apr 2015 17:06:59 GMT
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> z=(rebin(x,5,102))[*]

This is exactly how VECREP in JBIU does it.

-Jeremy.

Subject: Re: Duplicating an array help
Posted by rryan%stsci.edu on Mon, 27 Apr 2015 13:41:13 GMT
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On Friday, April 24, 2015 at 7:02:42 PM UTC-4, Joe Llama wrote:
> I'm not entirely sure how best to phrase what I am trying to do but essentially I am trying to find a function that does something like this (but without the loop):
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> x = findgen(5)
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> for i = 0, 100 do y = [y, x]
>
> So I then have an array [0,1,2,3,4,0,1,2,3,4...] 100 times. Is there a way of doing this without the loop?

>
> Thanks!

I fully endorse the other answers as better than this. But given what yo wrote, you might also consider the "mod" operator:

x= findgen(500) mod 5

-Russell

---

Subject: Re: Duplicating an array help
Posted by Jeremy Bailin on Mon, 27 Apr 2015 15:10:52 GMT
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On Monday, April 27, 2015 at 8:41:15 AM UTC-5, rryan%s...@gtempaccount.com wrote:
> On Friday, April 24, 2015 at 7:02:42 PM UTC-4, Joe Llama wrote:
>> I'm not entirely sure how best to phrase what I am trying to do but essentially I am trying to find a function that does something like this (but without the loop):
>>
>> x = findgen(5)
>> y = x
>> for i = 0, 100 do y = [y, x]
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>> So I then have an array [0,1,2,3,4,0,1,2,3,4...] 100 times. Is there a way of doing this without the loop?
>>
>> Thanks!
>
> I fully endorse the other answers as better than this. But given what yo wrote, you might also consider the "mod" operator:
>
> x= findgen(500) mod 5
>
> -Russell

You probably really want indgen or lindgen -- taking the modulus of a float isn't a good idea and can cause unwanted results!

-Jeremy.

---

Subject: Re: Duplicating an array help
Posted by Russell[1] on Mon, 27 Apr 2015 17:04:10 GMT
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On Monday, April 27, 2015 at 11:10:54 AM UTC-4, Jeremy Bailin wrote:

> On Monday, April 27, 2015 at 8:41:15 AM UTC-5, rryan%s...@gtempaccount.com wrote:
>> On Friday, April 24, 2015 at 7:02:42 PM UTC-4, Joe Llama wrote:
>>> I'm not entirely sure how best to phrase what I am trying to do but essentially I am trying to find a function that does something like this (but without the loop):
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>> x= findgen(500) mod 5
>>
>> -Russell
>
> You probably really want indgen or lindgen -- taking the modulus of a float isn't a good idea and can cause unwanted results!
>
> -Jeremy.

No, you're right. I was being a bit cavalier and working without actually testing anything.

But one should probably use rebin() for this purpose. I just thought mod was worth mentioning because the problem may need to be generalized to another environment where rebin() isn't an option.