
Subject: Re: Assigning the values of a matrix to a larger matrix
Posted by [Heinz Stege](#) on Fri, 02 May 2014 18:16:45 GMT
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On Wed, 30 Apr 2014 16:05:11 -0700 (PDT), fabrice.lambert@gmail.com wrote:

```
> Hello Heinz,  
>  
> That works, thanks a lot!  
>  
> I find it very counter-intuitive, though: In my example to fill in the values we want in the 3rd  
dimension of the base vector, we have to create a 4th dimension where every index contains a  
copy of the original 3d-input vector.  
>  
> Is there an easy way to understand that logic?  
>  
> Thanks,  
> Fabrice  
>  
> On Wednesday, April 30, 2014 5:21:35 PM UTC-4, Heinz Stege wrote:  
>> Hello Fabrice.  
>>  
>>  
>>  
>>  
>>  
>>  
>>  
>>> Is there a way to write the following code in IDL/GDL without a for loop?  
>>  
>>>  
>>  
>>> for i=0,90 do begin  
>>  
>>>   Base[*,* ,i]=Input[*,* ,0]  
>>  
>>> endfor  
>>  
>>  
>>  
>> Yes, you can write:  
>>  
>>  
>>  
>> n=size(input,/dimensions)  
>>  
>> base[0,0,0]=rebin(input,[n,91],/sample)  
>>
```

```

>>
>>
>> If the base array does not have to be bigger than the 91x input
>>
>> array, you don't need to create it explicitly and can more simply
>>
>> write:
>>
>>
>>
>> n=size(input,/dimensions)
>>
>> base=rebin(input,[n,91],/sample)
>>
>>
>>
>> Cheers, Heinz

```

Hello Fabrice,

I believe, something went absolutely wrong here. Are you really sure, that you get a correct result with my solution?

You say, that `rebin(input,[n,91],/sample)` has 4 dimensions. This means, that input itself has 3 dimensions (and the size of the 3rd dimension is greater or equal 2). It was my failure, not to think of this possibility. Something made me thinking, that it was an "extra dimension" you addressed with the zero in `Input[:,*,0]`. Sorry for this.

I wonder, why IDL didn't throw an error message. Does your base array have more than 3 dimensions, which you don't want to touch with this part of code?

Anyway, you want to write 3 dimensions into the base array. And as I understand now, your input array has 3 dimensions too, but you want to repeatedly use the first element of the third dimension. Here is a detailed example, how to do this without a loop:

```

input=indgen(5,4,2)
base=intarr(5,4,3)
base[0,0,0]=rebin(input[:,*,0],5,4,3,/sample)

```

A print displays the following result:

```
IDL> print,base
```

```

  0   1   2   3   4
  5   6   7   8   9

```

10	11	12	13	14
15	16	17	18	19

0	1	2	3	4
5	6	7	8	9
10	11	12	13	14
15	16	17	18	19

0	1	2	3	4
5	6	7	8	9
10	11	12	13	14
15	16	17	18	19

Another note: It is not mandatory, that for big arrays, this solution is faster than a loop. If your routine is time-consuming, you should test it.

I hope, this makes the things more clear. And sorry again for my mistake.

Cheers, Heinz
