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Subject: Re: referencing structure arrays

Posted by [Jean H.](#) on Thu, 10 Sep 2009 16:53:39 GMT

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niv wrote:

> Sorry, looks like what I typed looks gibberish in places. I hope this  
> one is more readable:

>

>

> Hi All,

>

> I have a problem referencing structure arrays and assigning values to  
> them. So here is a snippet of my code:

>

> junk1=update\_state(junk) ;creates a structure called junk1

> statearr=replicate(junk1,3) ;creates an array of structures

>

> infoptr=ptr\_new({statearr:statearr}) ;need this to pass variables  
> between programs

>

> align\_images,state=state1 ;some program that aligns 2 images and  
> stores the alignment results in state1

>

> ;assign values from the state1 structure to infoptr.statearr[0]  
> structure

> (\*infoptr).statearr[0].resvol\_file\_ptr=state1.resvol\_file\_ptr

> (\*infoptr).statearr[0].air\_file\_ptr=state1.air\_file\_ptr

>

> Now, here is the problem. With the above code, it turns out that...

>

> (\*infoptr).statearr[0].resvol\_file\_ptr, (\*infoptr).statearr

> [1].resvol\_file\_ptr, (\*infoptr).statearr[2].resvol\_file\_ptr

> all have the same values. Similarly with air\_file\_ptr. Even though I

> haven't assigned anything to the statearr 1 and 2 yet.

>

> Is there a specific way to reference these structure arrays? Any help  
> is greatly appreciated!

>

> Thanks

> Niv

Hi Niv,

the "problem" is with replicate (or your structure). If you have a pointer in it, you copy the pointer N times, so each of the copies still point to the same memory space... here is an example of what is happening:

```
IDL> a = {b:ptr_new(indgen(10))}
```

```
IDL> c = replicate(a,5)
IDL> help,c[0].b
<Expression>  POINTER = <PtrHeapVar2>
IDL> help,c[3].b
<Expression>  POINTER = <PtrHeapVar2>
```

so if you modify one, you modify all!  
What you can do is to create your structure with empty pointers,  
replicate the structure and set the pointer's value then.

```
a = {b:ptr_new()}
c = replicate(a,5)
...
c[0].b = state1.resvol_file_ptr
```

Jean

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