
Subject: Re: Arrays of Structures

Posted by [Craig Markwardt](#) on Wed, 21 Jun 2000 07:00:00 GMT

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The function STRUCT_ASSIGN was created in newer versions of IDL to perform so-called "relaxed" structure assignments -- exactly what you want. Alas, I do not believe it will work on array elements since they are pass-by-value.

Craig

Ben Tupper <tupper@seadas.bigelow.org> writes:

```
> Ah!
>
> I think I get it.  Anonymous means anonymous... but it is still unique (until
> redefined).
>
> S1 = {a:0, b:.1, c:''}
> A = Replicate(S1,3)
> S2 = S1
> S2.c = 'bob'
> A[1] = S2
>
> IDL> help, s1,s2,/str
> ** Structure <37d658>, 3 tags, length=16, refs=3:
>  A      INT      0
>  B      FLOAT    0.100000
>  C      STRING   ''
> ** Structure <37d658>, 3 tags, length=16, refs=3:
>  A      INT      0
>  B      FLOAT    0.100000
>  C      STRING   'bob'
>
> IDL> S1 = {X:1, Y:'y'}
> IDL> help, s1,/str
> ** Structure <37fda8>, 2 tags, length=12, refs=1:
>  X      INT      1
>  Y      STRING   'y'
>
> Thanks,
>
> Ben
>
>
> --
> Ben Tupper
```

>
> Bigelow Laboratory for Ocean Science
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>
>
>

--

Craig B. Markwardt, Ph.D. EMAIL: craigmnet@cow.physics.wisc.edu
Astrophysics, IDL, Finance, Derivatives | Remove "net" for better response

Subject: Re: Arrays of Structures
Posted by [Ben Tupper](#) on Wed, 21 Jun 2000 07:00:00 GMT
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Ah!

I think I get it. Anonymous means anonymous... but it is still unique (until redefined).

```
S1 = {a:0, b:.1, c:''}  
A = Replicate(S1,3)  
S2 = S1  
S2.c = 'bob'  
A[1] = S2
```

```
IDL> help, s1,s2,/str  
** Structure <37d658>, 3 tags, length=16, refs=3:  
  A      INT      0  
  B      FLOAT    0.100000  
  C      STRING   "  
** Structure <37d658>, 3 tags, length=16, refs=3:  
  A      INT      0  
  B      FLOAT    0.100000  
  C      STRING   'bob'
```

```
IDL> S1 = {X:1, Y:'y'}  
IDL> help, s1,/str  
** Structure <37fda8>, 2 tags, length=12, refs=1:  
  X      INT      1  
  Y      STRING   'y'
```

Thanks,

Ben

--

Ben Tupper

Bigelow Laboratory for Ocean Science
tupper@seadas.bigelow.org

pemaquidriver@tidewater.net

Subject: Re: Arrays of Structures
Posted by [R.G. Stockwell](#) on Wed, 21 Jun 2000 07:00:00 GMT
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Ben Tupper <tupper@seadas.bigelow.org> wrote in message
news:39511D37.96A7BF8B@seadas.bigelow.org...

> Jared wrote:

>

>> Ben,

>>

>> An array of anonymous structures can be made. For example:

>>

>> a = replicate({a:0, b:.1, c:""}, 10)

>>

>> makes a 10 element array of anonymous structures. Hope this helps.

>>

>> Jared

>

> Thanks,

>

> Ah, that was easy!

>

> Now here's 'How come #2'

> I know that I can replace a given field in one of the structures.

> How come I can't replace Array element X with an identical structure (as

> I would with a named structure?)

>

>

> IDL> S1 = {a:0, b:.1, c:""}

> IDL> S2 = {a:3, b:7., c:'x'}

> IDL> A = Replicate(S1,3)

> IDL> A(1).c = 'q' ;replace a field value without a

> problem

> IDL> A[1] = S2 ; can't replace a structure.

> % Conflicting data structures: S2,A.

```
> % Execution halted at: $MAIN$
>
> Thanks,
> Ben
>
> --
> Ben Tupper
>
> Bigelow Laboratory for Ocean Science
> tupper@seadas.bigelow.org
>
> pemaquidriver@tidewater.ne
```

Because they are not identical. They are not the same "type" of structure, where by "type" I mean they get different tags.

```
IDL> help,s1,s2,/st
** Structure <1321598>, 3 tags, length=16, refs=2:
  A      INT      0
  B      FLOAT    0.100000
  C      STRING   ""
** Structure <13272f8>, 3 tags, length=16, refs=1:
  A      INT      3
  B      FLOAT    7.000000
  C      STRING   'x'
```

Here the names are different (<1321598> and <13272f8>), so presumably IDL does not know they are the same structure (I guess they don't do the overhead of parsing through the structure to see if they really are the same).

Note that you can do the following (i.e. you can replace a structure element if it has the same tag):
; make the structure different
A.c = 'bob'
print,a
A[1] = S1
print,a

Cheers.
bob

Subject: Re: Arrays of Structures
Posted by [Ben Tupper](#) on Wed, 21 Jun 2000 07:00:00 GMT

Jared wrote:

```
> Ben,  
>  
> An array of anonymous structures can be made. For example:  
>  
> a = replicate( {a:0, b:.1, c:''}, 10)  
>  
> makes a 10 element array of anonymous structures. Hope this helps.  
>  
> Jared
```

Thanks,

Ah, that was easy!

Now here's 'How come #2'

I know that I can replace a given field in one of the structures.

How come I can't replace Array element X with an identical structure (as I would with a named structure?)

```
IDL> S1 = {a:0, b:.1, c:''}  
IDL> S2 = {a:3, b:7., c:'x'}  
IDL> A = Replicate(S1,3)  
IDL> A(1).c = 'q'           ;replace a field value without a  
problem  
IDL> A[1] = S2              ; can't replace a structure.  
% Conflicting data structures: S2,A.  
% Execution halted at: $MAIN$
```

Thanks,

Ben

--

Ben Tupper

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pemaquidriver@tidewater.net

Subject: Re: Arrays of Structures

Posted by [Jared Crossley](#) on Wed, 21 Jun 2000 07:00:00 GMT

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Ben,

An array of anonymous structures can be made. For example:

```
a = replicate( {a:0, b:.1, c:""}, 10)
```

makes a 10 element array of anonymous structures. Hope this helps.

Jared

Subject: Re: Arrays of Structures

Posted by [promashkin](#) on Thu, 22 Jun 2000 07:00:00 GMT

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Sorry if I repeat some of the things said above. The following should work, because, just like Ben said, despite S1 and S2 are both anonymous for the user, they are internally different for IDL. Make S2 the same as S1:

```
IDL> S1 = {a:0, b:.1, c:""}
IDL> S2 = S1
S2.a = 3 & S2.b = 7 & S2.c = 'x'
IDL> A = Replicate(S1,3)
IDL> A[1] = S2          ; can replace a structure.
```

Cheers,
Pavel

```
> Ah, that was easy!
>
> Now here's 'How come #2'
> I know that I can replace a given field in one of the structures.
> How come I can't replace Array element X with an identical structure (as
> I would with a named structure?)
>
> IDL> S1 = {a:0, b:.1, c:""}
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> IDL> A(1).c = 'q'          ;replace a field value without a
> problem
> IDL> A[1] = S2              ; can't replace a structure.
> % Conflicting data structures: S2,A.
> % Execution halted at: $MAIN$
>
> Thanks,
> Ben
```
