
Subject: Re: Array of Structures

Posted by [Rick Towler](#) on Thu, 15 Apr 2004 16:38:53 GMT

[View Forum Message](#) <> [Reply to Message](#)

"Dan Steinberg" wrote in message...

> I am wondering if it is possible to create an array of structures. I
> want to read multiple different anonymous structures into a single
> variable so I can reference each structure using the variable name and
> the array index. Is this possible?

Yes, but if when you say different, you mean that their lengths are different, you need to create an array of pointers which point to your structures.

You can have arrays of identical structures:

```
IDL> x=[{a:'one',b:1},{a:'two',b:2},{a:'three',b:3}]
IDL> help, x
X          STRUCT    = -> <Anonymous> Array[3]
IDL> print, x[2].a
three
```

You can have arrays of structs that are the same length but their *initial* tags are different:

```
IDL> y=[{a:'one',b:1},{c:'two',d:2},{e:'three',f:3}]
IDL> help, y[0], /struct
** Structure <15b85b0>, 2 tags, length=16, data length=14, refs=2:
  A          STRING  'one'
  B          INT      1
IDL> help, y[1], /struct
** Structure <15b85b0>, 2 tags, length=16, data length=14, refs=2:
  A          STRING  'two'
  B          INT      2
IDL> help, y[2], /struct
** Structure <15b85b0>, 2 tags, length=16, data length=14, refs=2:
  A          STRING  'three'
  B          INT      3
```

But you can not have an array whose elements differ in length:

```
IDL> y=[{a:'one',b:1},{a:'two',b:2,c:2.2},{a:'three',b:3,d:0D}]
% Conflicting data structures: <STRUCT Array[1]>,<STRUCT Array[1]>.
% Execution halted at: $MAIN$
```

In this case you need to create an array of pointers which point to your structs:

```
Z =
PTR_NEW([PTR_NEW({a:'one',b:FLTARR(3)}),PTR_NEW({a:'two',b:D BLARR(10)})])
```

```
IDL> help, *(*z)[0], /struct
** Structure <1b20198>, 2 tags, length=24, data length=24, refs=1:
  A      STRING  'one'
  B      FLOAT   Array[3]
IDL> help, *(*z)[1], /struct
** Structure <1bc3420>, 2 tags, length=96, data length=92, refs=1:
  A      STRING  'two'
  B      DOUBLE  Array[10]
```

-Rick
