
Subject: Re: Pointers to a variable...

Posted by [David Fanning](#) on Fri, 26 Aug 2011 13:36:44 GMT

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H. Evans writes:

```
> In other less friendly languages, e.g. C, the pointer points to an
> area of memory, which can coincide with a variable. This gives two
> methods to access the contents of the variable:
>
> #include <stdio.h>
> main() {
>   int a=5;
>   int *p;
>
>   p = &a;
>   printf("a=%i, *p=%i\n", a, *p);
>   a= 10;
>   printf("a=%i, *p=%i\n", a, *p);
> }
>
> outputs:
> a=5, *p=5
> a=10, *p=10
>
> So, now that IDL has pointers...can a pointer be set to point to a
> variable in the same way, i.e. to reference exactly the same memory
> space as the variable?
```

No, IDL pointers are NOT like C pointers.

```
> From the examples, I am under the impression that these pointers don't
> quite work in the same way, i.e. the pointers don't point to the same
> memory space as the variables.
```

This is correct.

```
> The reason I ask is that there are some very large variables that I'd
> rather not duplicate (waste of memory), but would like to group
> serially via a pointer array.
>
> As a trivial example:
>   a = FINDGEN(10000000L)
>   b = DINDGEN(2000000L)
>   c = REPLICATE( !P, 10000L)
>   p = PTRARR(3, /ALLOC)
>   *p[0] = a
>   *p[1] = b
```

```
> *p[2] = c
>
> for i=0,n_ELEMENTS(p)-1 DO print,N_ELEMENTS(*p[i])
>
> Is the only solution to create a,b, and c as heap variables in the
> first instance and then point p[i] to the heap variable?
```

IDL pointer variables are *exactly* like any other IDL variable:

http://www.idlcoyote.com/misc_tips/pointers.html

To transfer without duplicating, you could do this:

```
a = FINDGEN(10000000L)
b = DINDGEN(200000L)
c = REPLICATE( !P, 10000L)
p = PTRARR(3, /ALLOC)
*p[0] = Temporary(a)
*p[1] = Temporary(b)
*p[2] = Temporary(c)
```

This will undefine the variables a, b, and c in your program.

Cheers,

David

--

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Coyote's Guide to IDL Programming: <http://www.idlcoyote.com/>

Sepore ma de ni thui. ("Perhaps thou speakest truth.")
