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Subject: Re: Passing variables between procedures

Posted by [Michael Galloy](#) on Mon, 09 Jul 2012 17:36:00 GMT

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On 7/6/12 10:28 PM, Thesource007 wrote:

> On Friday, July 6, 2012 8:42:48 PM UTC-7, Craig Markwardt wrote:

>> On Friday, July 6, 2012 5:43:30 PM UTC-4, Thesource007 wrote:

>>> Hi all.

>>> This is my problem. I have two IDL procedures

>>> hr2altaz, hour, dec, alt, az -- which takes the HA and DEC and

>>> converts it to ALT and AZ

>>> altaz2hr, hour, dec, alt, az -- which takes ALT and AZ, and converts

>>> it to HA and DEC.

>>>

>>> What I need to do, is to begin with a certain HA and DEC, execute

>>> hr2altaz, which will give me the ALT and AZ, and then take those two

>>> outputs to execute altaz2hr, which will convert themj back to HA and

>>> DEC, and then repeat the process many times (say 100).

>>> The purpose being to compare the initial HA, DEC to the final (after

>>> 100 reps) HA, DEC.

>>> Is there a simple way to do this? Or I just have to use an input file

>>> and loops?

>>

>> Applying the function and its inverse: yes, just use a loop. The overhead of executing a loop 100 times is minimal.

>>

>> "An input file" : that's up to you. But you can always read your values into an array once at the beginning.

>>

>> Craig

>

> Ok. But now the question is... how do I "transfer" the output of one procedure to be the input of the other? I dont have a clue of how to do that.

> Thank you

>

From what I understand, you just need to do this:

```
for i = 0, 99 do begin
```

```
  hr2altaz, orig_hour, orig_dec, alt, az
```

```
  altaz2hr, hour, dec, alt, az
```

```
  ; compare orig_hour/orig_dec to hour/dec
```

```
endfor
```

IDL passes "named variables" like orig\_hour, orig\_dec, etc. by reference, meaning changes to them inside the routine are passed out of the routine. So when alt/az are modified in hr2altaz, the new values are passed into altaz2hr.

On the other hand, expressions like `orig_hour[*]`, `alt[0]`, `my_struct.x`, etc. are passed by value and modifications to them inside a routine are only local to that routine.

Mike

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Modern IDL: A Guide to IDL Programming (<http://modernidl.idldev.com>)

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