
Subject: Re: IDL 8.0 questions

Posted by [penteado](#) on Sun, 25 Jul 2010 19:11:18 GMT

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On Jul 25, 3:15 pm, Mike Potter <m...@orionsound.com> wrote:

> Thanks for the confirmation. You know, I've been trying the things
> you suggested and in the past hour or so have been unable to get it to
> misbehave! That is, it's working fine right now. I have no clue as
> to why. But note that in the line "% READFITS: ERROR - Unable to
> locate file ts" note that, like in my case, the two characters
> remaining are the last two in the file name. My files are ".fit" so I
> was getting "it" as the remaining characters after going to
> readfits().

Indeed. And I confirmed it is not readfits()'s fault, as I found where filename gets changed. In my version, it is in line 251 of readfits:

```
ext = strlowercase(strmid(filename,len-3,3))
```

I found it to be strmid that causes the problem. When I put a breakpoint in that line:

```
% Breakpoint at: READFITS      251 /software/idl/idlastro/pro/
readfits.pro
IDL> help,filename
FILENAME      STRING   = 'dec18i0001.fits'
IDL> help,filename,strmid(filename,len-3,3)
FILENAME      STRING   = 'its'
<Expression>  STRING   = 'its'
```

So I made a much simpler test case that manifests the bug:

```
IDL> s='abc_'+strtrim(sindgen(2),2)
IDL> for i=0,n_elements(s)-1 do help,i,s[i],strmid(s[i],0,1)
I      INT      =      0
<Expression>  STRING = 'abc_0'
<Expression>  STRING = 'a'
I      INT      =      1
<Expression>  STRING = 'abc_1'
<Expression>  STRING = 'a'
```

So far, all is well. But:

```
IDL> foreach el,s,i do help,i,el,strmid(el,0,1)
I      LONG     =      0
EL      STRING  = 'a'
<Expression>  STRING = 'a'
I      LONG     =      1
```

```
EL      STRING  = 'a'
<Expression>  STRING  = 'a'
```

So el is getting changed, it is receiving the output of strmid.

To make things more confusing, a print to el makes the problem go away:

```
IDL> foreach el,s,i do begin & print,i,':',el & help,i,strmid(el,
0,1),el & endforeach
0:abc_0
I      LONG    =      0
<Expression>  STRING  = 'a'
EL      STRING  = 'abc_0'
1:abc_1
I      LONG    =      1
<Expression>  STRING  = 'a'
EL      STRING  = 'abc_1'
```

And to show that is is not just a case of strmid putting its output into its input variable (which could not happen in the array element in the for loop, since it is passed by value):

```
IDL> a='abcd'
IDL> help,strmid(a,0,1)
<Expression>  STRING  = 'a'
IDL> help,a
A      STRING  = 'abcd'
```

Maybe el is getting one of its metadata fields wrong when it is created?