Subject: Re: buggy dictionary
Posted by Helder Marchetto on Tue, 09 Jun 2015 09:32:29 GMT
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```
On Monday, June 8, 2015 at 8:28:59 PM UTC+2, Dick Jackson wrote:
>  On Monday, 8 June 2015 07:49:14 UTC-7, Fabien  wrote:
>>  On 06/08/2015 04:15 PM, Helder wrote:
>>>  Please save everything before trying it!
>>>
>>>  IDL> a = dictionary('b',dictionary('c',findgen(10)))
>>>  IDL> a.b['c',1:-1]
>>>
>>>  ... bye bye IDL
>>
>>  Nice! Crashes IDL on my 64b Linux machine, too.
>>
>>  Cheers,
>>
>>  Fabien
>
>  I found some slightly different results:
>
>  IDL> !version
>  {
>     "ARCH": "x86_64",
>     "OS": "Win32",
>     "OS_FAMILY": "Windows",
>     "OS_NAME": "MicrosoftWindows",
>     "RELEASE": "8.4",
>     "BUILD_DATE": "Sep272014",
>     "MEMORY_BITS": 64,
>     "FILE_OFFSET_BITS": 64
>  }
>
>  IDL> a = dictionary('b',dictionary('c',findgen(10)))
>
>  IDL> a.b['c',[1:-1]]
>        1.0000000      0.00000000      0.00000000
>  ;;  Mine does not fail like yours, but it seems wrong!
>  ;;  That looks like array indexing off the low end, filling in '0' as it reaches back to -1
>
>  ;;  This seems to get to what you want, I think!:
>  IDL> a.b.c[1:-1]
>        1.0000000       2.0000000       3.0000000       4.0000000       5.0000000       6.0000000
>        7.0000000       8.0000000       9.0000000
>  ;;  But maybe you want the 'c' to be a string, to change it programmatically, in which case:
>  IDL> (a.b['c'])[1:-1]
>        1.0000000       2.0000000       3.0000000       4.0000000       5.0000000       6.0000000
>        7.0000000      8.0000000      9.0000000
>  ;;  I believe the parentheses cause a temporary copy of the array(10) to be made, which may
not be OK in your application
>
>  ;;  I wondered about modifying values in there, doesn't look good:
>  IDL> a.b.c[1:-1]=42
>  % Attempt to store into an expression: Structure reference.
>  % Execution halted at: $MAIN$
>  IDL> help,a.b.c[1:-1]
>  <Expression>    FLOAT     = Array[9]
>
>  ;;  I would think that should work, too:
>  IDL> c=findgen(10)
>  IDL> c[1:-1]=42
>  IDL> c
>       0.00000000      42.000000      42.000000      42.000000      42.000000      42.000000
>        42.000000      42.000000      42.000000      42.000000
>
>  Is anyone from {Harr|Exel}|is taking notes from this? Chris, are you there? :-)
>
>  Cheers,
>  -Dick
>
>  Dick Jackson Software Consulting Inc.
>  Victoria, BC, Canada --- http://www.d-jackson.com
```

Hi Dick,
you're absolutely right. There is a syntax error that causes the crash.
From IDL support I learned that I should have used the following syntax to index the array::

```
a = dictionary('b',dictionary('c',findgen(10)))
print, a.b['c',[1:-1]]
```

However, as you pointed out, this delivers the wrong answer. Exelis acknowledged this (incident number 294397) and filed a bug report.

So this will give a wrong answer:
```
print, a.b['c',[1:-1]]
```
but this will be ok:
```
print, a.b.c[1:-1]
```

Cheers,
Helder

PS: Funny extra. According to the dictionary access documentation (http://www.exelisvis.com/docs/DICTIONARY.html#Access) in the example at the very button there is a code example:

```
 ---------------------------------------------------------
str = {data: FINDGEN(10)}
PRINT, str.data
PRINT, str.data[2:5] ; this works

dict = DICTIONARY('data', FINDGEN(10))
PRINT, dict.data ; this works
PRINT, dict.data[2:5] ; this will fail with an error
PRINT, dict['data', [2:5]] ; this works correctly
---------------------------------------------------------
```

The line commented "this will fail with an error" does not fail at all.

```
IDL> dict = DICTIONARY('data', FINDGEN(10))
IDL> PRINT, dict.data ; this works
IDL> PRINT, dict.data[2:5] ; this will fail with an error
IDL> PRINT, dict['data', [2:5]] ; this works correctly
     0.000000      1.00000      2.00000      3.00000      4.00000      5.00000      6.00000      7.00000
  8.00000      9.00000
      2.00000      3.00000      4.00000      5.00000
      2.00000      3.00000      4.00000      5.00000
IDL> !version
{
    "ARCH": "x86_64",
    "OS": "Win32",
    "OS_FAMILY": "Windows",
    "OS_NAME": "Microsoft Windows",
    "RELEASE": "8.4.1",
    "BUILD_DATE": "Feb 17 2015",
    "MEMORY_BITS": 64,
    "FILE_OFFSET_BITS": 64
}
```