
Subject: Re: What in the world does "Program code area full" mean?

Posted by [wlandsman](#) on Wed, 12 Aug 2009 22:11:36 GMT

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On Aug 12, 5:18 pm, David Fanning <n...@dfanning.com> wrote:

>
> Yes, IDL is really not designed to run one gigantic
> line of code like this. You would be MUCH better
> served if you did a global delete of all "&\$" marks
> and put an END at the end of your code, gave it
> a name (something like "disaster.pro" would be OK),
>

Early one in one's IDL programming life, one learns not to write a single long line of code like this. But I only recently appreciated how using EXECUTE() is similar to writing a single line of code -- you better be careful if it gets too long! The problem came up in code I have that uses EXECUTE() to dynamically create a structure. The little code program below will probably fail with a "Code Area Full" at some point -- depending on your machine -- when the execute string becomes too long.

```
pro test
FOR i=100, 600 DO BEGIN
    ;;Get unique names for elements, make sure they are 8 long
    exstring = 'a={' + $
        STRJOIN( STRING(INDGEN(i),FORMAT='("TAG",I05,"0.0d0")'),',') +
    '}'
    res = EXECUTE(exstring)
    IF res EQ 0 THEN MESSAGE,"Execute failed on "+STRING(i)
ENDFOR
return
end
```

The problem is not that the structure itself is too large - it can easily be created if one puts the structure definition in a procedure file and compiles it. (This is one of the ways to get around the problem. The other way is to break up the structure definition into chunks and then combine the substructures with CREATE_STRUCT() -- this is the method used by mrd_struct.pro = http://idlastro.gsfc.nasa.gov/ftp/pro/structure/mrd_struct.p ro)

One thing that confused me was that, in ancient days, EXECUTE() had strict limits on the number of characters. Then sometime in IDL 5.x these limits were removed, giving the impression that one could use arbitrarily long strings within EXECUTE(). But in fact it is subject to the same code memory limits as when writing a program as a single line of code. --Wayne
