
Subject: Re: Random Access Text (like getline)
Posted by [David Fanning](#) on Tue, 22 Jun 2004 22:48:22 GMT
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Michael Lefsky writes:

> I am looking for way to randomly access a text file, as getline will
> do in python. Essentially, getline will allow you to access any line
> in a text file by giving it the line number in the file (e.g.
> getline(100)). I can't see a way to do that with a text file in
> IDL....

Here is something quick and dirty, hacked from something else.
Seems to work with the light testing I've given it on a couple
of text files. Might get you started in the right direction,
anyway. :-)

Cheers,

David

```
.***** *  
,  
FUNCTION GetLine, lineNumber, filename  
  
; This utility routine is used to return a specific line in a text file.  
  
IF N_Elements(maxrows) EQ 0 THEN maxrows = 500L  
IF N_Elements(lineNumber) EQ 0 THEN lineNumber = 0  
IF N_Elements(filename) EQ 0 THEN BEGIN  
    filename = Dialog_Pickfile(Title='Find Line in this File...')  
    IF filename EQ "" THEN RETURN, ""  
ENDIF
```

```
OpenR, lun, filename, /Get_Lun
```

```
Catch, error  
IF error NE 0 THEN BEGIN  
    count = count-1  
    Free_Lun, lun  
    ok = Dialog_Message('Selected text file has only ' + $  
        StrTrim(count,2) + ' lines in the file.')  
    RETURN, ""  
ENDIF
```

```
RESTART:
```

```
count = 0L  
line = "
```

```

REPEAT BEGIN
    ReadF, lun, line
    count = count + 1

    ; Try again if you hit MAXROWS without encountering the
    ; end of the file. Double the MAXROWS parameter.

    IF count EQ maxrows THEN BEGIN
        maxrows = maxrows * 2
        Point_Lun, lun, 0
        GOTO, RESTART
    ENDIF

ENDREP UNTIL count GT lineNumber

Free_Lun, lun
RETURN, line
END

```

```

,*****
,

```

--

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

Subject: Re: Random Access Text (like getline)
Posted by [Mark Hadfield](#) on Tue, 22 Jun 2004 23:58:27 GMT
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Michael Lefsky wrote:

```

> I am looking for way to randomly access a text file, as getline will
> do in python. Essentially, getline will allow you to access any line
> in a text file by giving it the line number in the file (e.g.
> getline(100)). I can't see a way to do that with a text file in
> IDL....

```

There are many routines around that will read a text file into a string array, whence you can access any line. The one I know about is MGH_TXT_RESTORE in the Motley library:

<http://www.dfanning.com/hadfield/idl/README.html>
<http://www.dfanning.com/hadfield/idl56/README.html>

This routine boasts 4 (!) different methods of accumulating the strings before assembling them into an array. Which is excessive, obviously, but I was curious about the relative performance.

If you just want, say, the 100th line of a 1000000-line file, it would be wasteful to read the whole file. I believe David's code in another post reads up to the required line, and not beyond.

I looked up `getline` on the Python documentation search site and found...

`getline()` (in module `linecache`)

The `linecache` module allows one to get any line from any file, while attempting to optimize internally, using a cache, the common case where many lines are read from a single file. This is used by the `traceback` module to retrieve source lines for inclusion in the formatted traceback.

...Very cool! I doubt anyone's implemented anything like this in IDL. Perhaps you would like to give it a try and post the code when you've finished.

--

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