Subject: Re: Random Access Text (like getline) Posted by David Fanning on Tue, 22 Jun 2004 22:48:22 GMT View Forum Message <> Reply to Message

```
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

David Fanning, Ph.D.
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Covote's Guide to IDL Programming: ht

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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