
Subject: Re: unformatted strings (reading)
Posted by [Jackel](#) on Sat, 03 Feb 1996 08:00:00 GMT
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In article <4eule1\$si1@news.alaska.edu> immel@gi.alaska.edu (Thomas Immel) writes:
> Here's a question for anyone who reads unformatted strings.
> Is there a way to read a whole ,say 10 character, string at once
> in IDL?

Not in general. When written as standard binary, strings don't contain any information about their length, or markers between them. Consequently, IDL has no way of knowing how many bytes to read. However, in the XDR binary mode, stringlengths are stored along with the string, allowing something like the following:

```
IDL> teststrings= ['This','is','a','set of','test strings. Okay?']  
IDL> openw,1,'test.dat',/XDR  
IDL> writeu,1,teststrings  
IDL> close,1
```

```
IDL> openr,1,'test.dat',/XDR  
IDL> newstrings= strarr(5) ;define some strings, don't worry about their lengths  
IDL> readu,1,newstrings  
IDL> print,newstrings  
This is a set of test strings. Okay?
```

Of course, this is only useful if you can make sure XDR is used in the first place (and if you had control over the writing you could just pad everything out to some known length). Otherwise you can try things like searching for spaces (like another poster suggested), but that could get messy if there are non-strings mixed in with the data. Good luck.

Brian Jackel
University of Western Ontario

Subject: Re: unformatted strings (reading)
Posted by [agrap](#) on Sat, 03 Feb 1996 08:00:00 GMT
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immel@gi.alaska.edu (Thomas Immel) writes:

> Here's a question for anyone who reads unformatted strings.
> Is there a way to read a whole ,say 10 character, string at once
> in IDL? Here's what is happening to me.

[example deleted]

> 's' !?!? Just the first character. If I define bonk to be two spaces or three
> spaces then i get 'st' or 'stu' back. I know it's cause each character is 2
> bytes or something like that. Is there any way, other than defining bonk as 13
> blank spaces before reading,
> that I can read this string? Any bright ideas would be appreciated!

You could parse the string on delimiters like spaces, commas, tabs
etc. I took your example and modified it a little to show this. If
your string has just one field, just make your input string array to
be one element long (instead of 3 in the example below).

There's probably a more elegant way of doing this, but I've used the
below routine alot, and it's a good workhorse. You can easily modify
it to parse on different delimiters than spaces too.

Amara

```

,*****
PRO EXTRACT,A,S,INDEX
;Purpose: This subroutine takes a long string with values separated by
;blanks and extracts the values between the blanks and puts the values into
;the array 'S'. The routine
;automatically figures out how many fields are between the blanks as a check.
;INPUT: A: the long string (a line of data)
; S: a string array already formatted with fields
;OUTPUT: S the array with the values inserted
; INDEX: the number of fields in this line
;-----
;Amara Graps 5-16-90
;-----
lstring = strlen(a) ;length of input string
remainder = a
pos = strpos(remainder,' ',0) ;parse on the delimiter ' '
index = 0
while pos ne -1 do begin
  remainder = strtrim(remainder,2)
  pos = strpos(remainder,' ',0)
  if pos ne -1 then begin
    s(index) = strmid(remainder,0,pos+1)
    remainder = strmid(remainder,pos,lstring)
  end ;if
  index = index + 1
end ;while

case 1 of

```

```

index gt 0: s(index-1) = strtrim(remainder,2)
index eq 0: s(index) = strtrim(remainder,2)
else:
endcase
end
.*****
;
;-----
;IDL program: stringtest.pro
;Unformatted string read and write test by Amara Graps, 3 Feb 1996
;-----

;Write the string
get_lun,unit
openw, unit, 'silly.dat'
stumblestring = 'stumblefloppy'+ ' '+stumblefloppy+ ' '+stumblefloppy'
writeu, unit, stumblestring
close, unit
free_lun, unit

;Read the string
len_stumblestr = strlen(stumblestring)
format = '($+',A'+string(len_stumblestr)+')'
bonk = string(",format)    ;initialize line length to be len_stumblestr
get_lun,unit
openr, unit, 'silly.dat'
readu, unit, bonk
close, unit
free_lun, unit

help, bonk    ;Look at bonk

;Parse the string
bonk_array = strarr(3) ;Set up bonk_array to be 3 string fields
extract, bonk, bonk_array, index

;Print the strings
help, bonk_array ;look at the bonk array
print, bonk_array(0)
print, bonk_array(1)
print, bonk_array(2)

end ; program stringtest.pro
.*****
;
--

```

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Multiplex Answers URL: http://www.amara.com/

"I see the correlation, but just because I work for the federal government
doesn't mean I'm an expert on cockroaches." --Agent Mulder (The X-Files)

Subject: Re: unformatted strings (reading)
Posted by [immel](#) on Sun, 04 Feb 1996 08:00:00 GMT
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immel@gi.alaska.edu (Thomas Immel) wrote:

Thanks for the info and email on this
subject. The external data representation
is just what I needed to know about.

Thanks again
Thomas Immel

> Here's a question for anyone who reads unformatted strings.
> Is there a way to read a whole ,say 10 character, string at once
> in IDL? Here's what is happening to me.

> 1)Open an unformatted idl file and write a silly string like 'stumblefloppy'

> get_lun,unit
> openw, unit, 'silly.dat'
> writeu,unit,'stumblefloppy'
> free_lun, unit

> 2) Try to read the string

> bonk=' ' ; this is the string variable that I read into
> get_lun,unit
> openr, unit, 'silly.dat'
> readu, unit, bonk

> 3) OK, I'm ready to print 'stumblefloppy'!

> print,bonk
> s

> 's' !?!? Just the first character. If I define bonk to be two spaces or three
> spaces then i get 'st' or 'stu' back. I know it's cause each character is 2
> bytes or something like that. Is there any way, other than defining bonk as 13
> blank spaces before reading,
> that I can read this string? Any bright ideas would be appreciated!

> Thomas Immel
> Immel@geewiz.gi.alaska.edu

> P.S. Ken Knighton, whoever he is, is RIGHT ON!

Subject: Re: unformatted strings (reading)
Posted by [David Foster](#) on Wed, 07 Feb 1996 08:00:00 GMT
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immel@gi.alaska.edu (Thomas Immel) wrote:

>
>
> Here's a question for anyone who reads unformatted strings.
> Is there a way to read a whole ,say 10 character, string at once
> in IDL? Here's what is happening to me.
>
>
>
> Thomas Immel
> Immel@geewiz.gi.alaska.edu
>

If you know the length of the string you want to read, you can
always do something like:

```
openw, 5, 'test'  
writeu, 5, 'Whatever'  
free_lun, 5  
openr, 5, 'test'  
s = string( replicate(32B, 8) ) ; String of 8 spaces  
readu, 5, s  
free_lun, 5  
print, s  
Whatever
```
