
Subject: Re: Help needed with reading ASCII data
Posted by [Michael Asten](#) on Fri, 03 Dec 1999 08:00:00 GMT
[View Forum Message](#) <> [Reply to Message](#)

Liam Gumley wrote:I'm assuming your data file looks something like this:

```
>
> 0, 0, 0.998
> 1, 0, 0.976
> 2, 0, 0.876
>
> It sounds like you're not really interested in the x and y coordinates,
> since they are probably the same for all 22 time phases. In this case,
> you can read the array in one hit:
>
> ;- Read the data file
> openr, lun, 'mri.dat', /get_lun
> data = fltarr(3, 38808)
> readf, lun, data
> free_lun, lun
>
> ;- Extract the magnitude array
> h = data[2, *]
> h = reform(h, 49, 36, 22)
>
> ;- Visualize the data as an image sequence
> mag = 5
> for index = 0, 21 do tvscl, rebin(h[*], *, index], mag*49, mag*36, 1,
> /sample)
>
> Cheers,
> Liam.
>
```

Or, if your data file is not always of identical length, try using the idl routine READ_ASCII, which will read an arbitrary number of columns and rows of any data type, into a structure.

Regards,
Michael Asten

Subject: Re: Help needed with reading ASCII data
Posted by [John Keck](#) on Fri, 03 Dec 1999 08:00:00 GMT
[View Forum Message](#) <> [Reply to Message](#)

```
> I'm completely new to IDL, and I have a set of data in ASCII format. It
> is extracted from MRI data. It is a file which contains 3 columns of
```

> data. The first column is the x, the second is the y coordinate and the
> third is just a scaled magnitude value between 0 and 1. There are 38808
> rows of data, and the matrix size is (49, 36) and there are 22 time
> phases. I want to know if anyone has had experience in reading in data
> of this type, and how to put it into an array that can be read by IDL.

Dear Scott,

The easier thing to do (programming-wise) is to use the READCOL procedure, which I believe is part of one of the standard libraries that you can download (you can search these libraries from <http://www.astro.washington.edu/deutsch/idl/htmlhelp/index.html>)

Your data file is a bit big though, so that may take quite a while. I've found a much faster way to read in big files is to set up a structure and a print-type format to read in the data. Something like this:

```
filename = "foo.dat"
fmt = "(i3,3F7.2)" ; of course this has to match the format of your
columns
```

```
cog = {det $
,t: 0 $
,x: 0. $
,y: 0. $
,z: 0.)
```

```
all = REPLICATE(cog,nl) ; NL = # lines in file
```

```
OPENR,lun,/GET_LUN,filename
READF,lun, FORMAT=fmt,all
FREE_LUN,lun
END
```

Anyway, that should read in your file at one blow. You can then re-arrange the data in your arrays as you like. (You may want to look up the IDL help files on structures; it might be helpful to know that you can address the fields of a structure with numbers and can to a large extent treat a structure as an array.)

I hope that's helpful.

Sincerely,

John Keck

Subject: Re: Help needed with reading ASCII data
Posted by [Liam Gumley](#) on Fri, 03 Dec 1999 08:00:00 GMT
[View Forum Message](#) <> [Reply to Message](#)

Scott Reid wrote:

```
> I'm completely new to IDL, and I have a set of data in ASCII format. It
> is extracted from MRI data. It is a file which contains 3 columns of
> data. The first column is the x, the second is the y coordinate and the
> third is just a scaled magnitude value between 0 and 1. There are 38808
> rows of data, and the matrix size is (49, 36) and there are 22 time
> phases. I want to know if anyone has had experience in reading in data
> of this type, and how to put it into an array that can be read by IDL.
> I know how to open the data and display it, with the following
>
> openr, 1, filepath(..)
> :
> : HELP WITH THE READING OF THE ASCII DATA PLEASE!!!!!!
> :
> :
> h=fltarr(49,36,22)
> close, 1
> loadct, 3
> h = rebin(h, 32, 32, 22)
> frames = fltarr(256, 256, 22)
> window, 1, TITLE='Bloodflow animation', xsize=256, ysize=256
> for i=0, 22 do begin surface, h[* , * , i], zrange=[0, 1] & frames[0,0,i]
> = tvrd() & end
>
> If anyone could help me with reading the ASCII data and putting it into
> an array which IDL can read, I would be most grateful
```

I'm assuming your data file looks something like this:

```
0, 0, 0.998
1, 0, 0.976
2, 0, 0.876
```

It sounds like you're not really interested in the x and y coordinates, since they are probably the same for all 22 time phases. In this case, you can read the array in one hit:

```
;- Read the data file
openr, lun, 'mri.dat', /get_lun
data = fltarr(3, 38808)
readf, lun, data
free_lun, lun
```

```
;- Extract the magnitude array
h = data[2, *]
```

```
h = reform(h, 49, 36, 22)
```

;- Visualize the data as an image sequence

```
mag = 5
```

```
for index = 0, 21 do tvscl, rebin(h[*], mag*49, mag*36, 1,  
/sample)
```

Cheers,

Liam.

--

Liam E. Gumley

Space Science and Engineering Center, UW-Madison

<http://cimss.ssec.wisc.edu/~gumley>

Subject: Re: Help needed with reading ASCII data

Posted by [Bernard Puc](#) on Fri, 03 Dec 1999 08:00:00 GMT

[View Forum Message](#) <> [Reply to Message](#)

Scott Reid wrote:

>

> Hi All

>

> I'm completely new to IDL, and I have a set of data in ASCII format. It
> is extracted from MRI data. It is a file which contains 3 columns of
> data. The first column is the x, the second is the y coordinate and the
> third is just a scaled magnitude value between 0 and 1. There are 38808
> rows of data, and the matrix size is (49, 36) and there are 22 time
> phases. I want to know if anyone has had experience in reading in data
> of this type, and how to put it into an array that can be read by IDL.

I typically do something like this when reading delimited ASCII data.
Each line is read into a string and then the string is divided into an
array of strings. Then you do what you will with the values in the
array:

```
OPENR,Lun,/Get_Lun,Filename
```

```
sString = "
```

```
WHILE NOT(EOF(Lun)) DO BEGIN
```

```
  READF,Lun,sString
```

```
  tempArray = str_sep(sString, string(byte(32))) ;Replace with ASCII code  
  of delimiter
```

```
  index = WHERE( tempArray NE "", num)
```

```
  IF num GT 0 THEN tempArray = tempArray[index]
```

```
x = float(tempArray[0])
```

```
y = float(tempArray[1])
```

```
s = float(tempArray[2])  
;You would assign these values to fill your array: fltarr(49,36,22)
```

END

--

Bernard Puc	AETC, INC.
bpuc@va.aetc.com	1225 Jefferson Davis Highway #800
(703) 413-0500	Arlington, VA 22202
