
Subject: Re: Unknown data type

Posted by [David Fanning](#) on Tue, 28 Dec 2004 03:19:25 GMT

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Julio writes:

> I can read byte or integer images using byte or integer arrays, like:
>
> byte_image=bytarr(samples, rows) or
> integer_image=intarr(samples, rows)
>
> In both cases I must know the data type. But, when I don't know the
> data type, how can I do to read the images? Is there some way to
> verify the file format before reading into an array?

How can you find the New Year's party when you don't
know the address? It's a problem. :-(

Cheers,

David

P.S. You could do a small "trial read" and see
if the data "made sense" the way you read it.
What "makes sense" means is kind of up to you.

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

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

Subject: Re: Unknown data type

Posted by [ed](#) on Wed, 29 Dec 2004 03:29:37 GMT

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Julio, David and others,

The first line of most image formats (at least the few that I've poked
into) contains a code that tells you the format of the image. For
example, a gif file may start off with GIF89, and a jpg file will have
JFIF in the bytes 5-8. If you can figure out these codes in advance
for each type of image you are likely to read, you can write a program
to read the first dozen or so bytes and search for the code, then use
that information to run the appropriate IDL routine (read_gif,
read_jpeg, or whatever).

You might even be able to learn how it's done for the 3 web-based

formats

(gif, jpg & png) by looking at the freely-available source code for Firefox or Mozilla, since these browsers (and any other competent one) identify the file type by reading the first several bytes.

Ed Schmahl
University of Maryland
Astronomy Department

David Fanning wrote:

```
> Julio writes:
>
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like:
>>
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> David
>
> P.S. You could do a small "trial read" and see
> if the data "made sense" the way you read it.
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>
> --
> David Fanning, Ph.D.
> Fanning Software Consulting, Inc.
> Coyote's Guide to IDL Programming: http://www.dfanning.com/
```

Subject: Re: Unknown data type
Posted by [David Fanning](#) on Wed, 29 Dec 2004 04:11:48 GMT
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ed@schmahl.org writes:

```
> The first line of most image formats (at least the few that I've poked
> into) contains a code that tells you the format of the image. For
```

- > example, a gif file may start off with GIF89, and a jpg file will have
- > JFIF in the bytes 5-8. If you can figure out these codes in advance
- > for each type of image you are likely to read, you can write a program
- > to read the first dozen or so bytes and search for the code, then use
- > that information to run the appropriate IDL routine (read_gif,
- > read_jpeg, or whatever).
- >
- > You might even be able to learn how it's done for the 3 web-based
- > formats
- > (gif, jpg & png) by looking at the freely-available source code for
- > Firefox or Mozilla, since these browsers (and any other competent one)
- > identify the file type by reading the first several bytes.

Quite a few defined file formats have a "magic number" that can be read to identify the file type. But, generally, you know if you have one of these kind of files by the file extension and you can read them directly with the appropriate file reading program (READ_JPEG, READ_TIFF, etc.).

Most people who inquire about "how do I read this file if I don't know what's in it" have been presented with some kind of one-off file format written by a colleague who divorced his wife of 25 years and ran off with the department secretary and didn't leave very good notes in his office drawer. For that kind of file you either have to be incredibly clairvoyant or you have to use some detective skills. But there no "easy way". :-)

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

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

Subject: Re: Unknown data type
Posted by [R.Bauer](#) on Wed, 29 Dec 2004 13:43:47 GMT
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Julio wrote:

- > Hello folks,
- >
- > I can read byte or integer images using byte or integer arrays, like:
- >

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>
> In both cases I must know the data type. But, when I don't know the
> data type, how can I do to read the images? Is there some way to
> verify the file format before reading into an array?
>
> Thanks for comments and happy New Year!
>
> Julio

This depends on what else you know about the data.
In your case it's only the type case which you want to determine. If you
probably knows how much lines and columns the image should have then it is
easy to calculate from the file size the length of the type you need for
reading the whole file. If you got 4byte as type it could be long or float.
Both will be able to read the whole file. You could first read it by float
and then test if float is necessary. If not read it a second time by long.

cheers
Reimar

--
Forschungszentrum Juelich
email: R.Bauer@fz-juelich.de
<http://www.fz-juelich.de/icg/icg-i/>
===== a IDL library at Forschungszentrum Juelich
http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_lib_intro.html

Subject: Unknown data type
Posted by [julio](#) on Thu, 30 Dec 2004 13:59:57 GMT
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Hello,

The files I want to read haven't any typical format. Each file has
information in the first line (like number of rows and columns), but
anything about data type.

So, I followed the tips of David. I carried out a "trial read" using

```
Data_type=integer ; I assume all the files are integer
ON_IOERROR, bad
OPENR,lun, arq, /GET_lun
```

```
test = make_array(nc, nl,/integer)
READU, lun, test ; reading the file into an integer array
GOTO, Ok
bad: data_type=byte ; if the file couldn't be read into an integer
array
Ok: FREE_LUN, lun
```

As I told you first, I have only two possible data types: byte and integer. So, using it, I could solve the problem.

Thanks David and others,
Julio
