
Subject: Re: Python reader for IDL save files.
Posted by [Craig Markwardt](#) on Thu, 02 Jun 2005 05:11:59 GMT
[View Forum Message](#) <> [Reply to Message](#)

lefsky@gmail.com writes:

- > 1. Has anyone worked on the problem of reading IDL save files from
- > within python? This seems like a reasonable project for the usual IDL
- > variable types.

I have not, but I did unofficially document the save file format for data:

<http://cow.physics.wisc.edu/~craigm/idl/cmsave.html>

RSI and Kodak threatened a lawsuit about a previous version of that library, so hopefully somebody will get some use out of my past distress.

Good luck,
Craig

--

Craig B. Markwardt, Ph.D. EMAIL: craigmnet@REMOVEcow.physics.wisc.edu
Astrophysics, IDL, Finance, Derivatives | Remove "net" for better response

Subject: Re: Python reader for IDL save files.
Posted by [Chris Lee](#) on Thu, 02 Jun 2005 07:30:19 GMT
[View Forum Message](#) <> [Reply to Message](#)

In article <1117675749.189108.60990@z14g2000cwz.googlegroups.com>,
"Unknown" <lefsky@gmail.com> wrote:

- > I have two questions:
- > 1. Has anyone worked on the problem of reading IDL save files from
- > within python? This seems like a reasonable project for the usual IDL
- > variable types.
- > 2. The only problem I have thought of is how to represent arrays of IDL
- > structures in Python. The one attempt I made at this was succesful, but
- > the resulting data structures (lists of lists, I think) were very slow
- > to work with. Has anyone worked on this problem? M
- >

I may be wrong, but I thought IDL didn't use arrays of structures, it used a single structure of arrays, which is why structure have to conform

to be put into the same array

```
IDL> help, [{b:2,c:3}, {a:2,c:3}]
<Expression>  STRUCT = -> <Anonymous> Array[2]
IDL> help, [{b:2,c:3}, {a:2,c:3d}]
% Conflicting data structures:
IDL> help, [{b:2,c:3}, {a:2,c:3,d:3}]
% Conflicting data structures:
```

If you want to store these in a python 'structure', then I'd guess a dictionary is what you want, e.g. `s={'a':[1,2,3], 'b':['bob','joe','fred']}`, but you would probably need to use a class and redefine the `__getattr__` method or similar if you want the access method to be `s[0].b`

Chris.

Subject: Re: Python reader for IDL save files.
Posted by [Thomas Pfaff](#) on Thu, 02 Jun 2005 12:37:44 GMT
[View Forum Message](#) <> [Reply to Message](#)

> 2. The only problem I have thought of is how to represent arrays of IDL
> structures in Python. The one attempt I made at this was succesful, but
> the resulting data structures (lists of lists, I think) were very slow
> to work with. Has anyone worked on this problem?

Just by analogy, what about implementing arrays as lists and structs as dictionaries? Then the syntax would be quite similar yet not completely identical.

```
# IDL - an array
# python - a list
a = [1,2,3,4]

# IDL - an array of structs
b = [{a:1, b:3},{a:3, b:4}]
# python - a list of dictionaries
b = [{"a":1, "b":3},{ "a":3, "b":4}]

#IDL
c = b[0].a
#python
c = b[0]["a"]
```

Cheers,

Thomas

Subject: Re: Python reader for IDL save files.
Posted by [Matt Feinstein](#) on Thu, 02 Jun 2005 13:53:31 GMT
[View Forum Message](#) <> [Reply to Message](#)

On 1 Jun 2005 18:29:09 -0700, lefsky@gmail.com wrote:

>
> 2. The only problem I have thought of is how to represent arrays of IDL
> structures in Python. The one attempt I made at this was succesful, but
> the resulting data structures (lists of lists, I think) were very slow
> to work with. Has anyone worked on this problem?

You might try the 'Object Array' type in the numarray module.
Operations on numarray arrays are generally speedier than
corresponding operations on Python lists since the implementor can
assume that the elements in a numarray are all of the same type.

Matt Feinstein

--
There is no virtue in believing something that can be proved to be true.

Subject: Re: Python reader for IDL save files.
Posted by [Michael Wallace](#) on Thu, 02 Jun 2005 20:34:05 GMT
[View Forum Message](#) <> [Reply to Message](#)

> 1. Has anyone worked on the problem of reading IDL save files from
> within python? This seems like a reasonable project for the usual IDL
> variable types.

I had this same question a while back and came to find out that the IDL
save file format does not have a public description and that RSI
reserves the right to change the format at any time they want. In
short, they don't want people to know the format or to start messing
around with their save files.

> 2. The only problem I have thought of is how to represent arrays of IDL
> structures in Python. The one attempt I made at this was succesful, but
> the resulting data structures (lists of lists, I think) were very slow
> to work with. Has anyone worked on this problem?

With the way that Python data structures work, it doesn't seem like

there would be any good way to directly translate an array of structures in IDL to something in Python. If I may ask, why are you attempting to use IDL and Python together in this way? I ask only because there may be another way to go about solving your problem so there'll be less burden on the Python side, which seems to be the bottleneck.

I have written programs where IDL has communicated with programs in other languages (e.g. Python, Java), but each time I've written something extremely specific rather than trying to find the general solution. That may be what you need to do -- code the specific solution such that you can make the best use of Python for this particular project.

-Mike
