
Subject: Beginner question about the @ usage
Posted by [Mathieu Malaterre](#) on Wed, 27 Jul 2005 17:32:41 GMT
[View Forum Message](#) <> [Reply to Message](#)

Hello,

So I am slowly learning idl, and I am confused on the use of the '@' to include files.

```
If I have:
.....
hello.pro
.....
print, 'Hello World'
exit
```

I can just run
\$ idl hello.pro
and everything is fine

```
If I have then:
.....
lib.pro
.....
; Lib containing one Function

; carre return the square of its input
Function carre, input
    return, input*input
End
.....
testlib.pro
.....
; include the content of file: lib.pro
@lib
a = 5
print, a
b = carre(a)
print, b
exit
```

I cannot run :
\$ idl testlib.pro

it returns:

% Programs can't be compiled from single statement mode.

Then I tried:

```
$ echo testlib | idl
```

but then it returns:

```
% Attempt to call undefined procedure/function: 'TESTLIB'.
```

```
% Execution halted at: $MAIN$
```

What is the correct way to run testlib.pro ?

Thanks

Mathieu

Subject: Re: Beginer question about the @ usage

Posted by [Mathieu Malaterre](#) on Wed, 27 Jul 2005 19:10:50 GMT

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

> What is the correct way to run testlib.pro ?

ok I found a working example:

<http://groups-beta.google.com/group/comp.lang.idl-pvwave/msg/f539ce41dda7574b>

Still don't understand why PRO is needed...

Mathieu

Subject: Re: Beginer question about the @ usage

Posted by [Paul Van Delst\[1\]](#) on Wed, 27 Jul 2005 19:50:43 GMT

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

Mathieu Malaterre wrote:

>

>> What is the correct way to run testlib.pro ?

>

>

> ok I found a working example:

>

> <http://groups-beta.google.com/group/comp.lang.idl-pvwave/msg/f539ce41dda7574b>

>

>

> Still don't understand why PRO is needed...

The usual recommendation is to put any procedure/function that you will ever want to call in a file

with the same name as the function.

e.g. bananas.pro contains

```
pro BaNaNas, input, output
  output = input * 2
end
```

and applesandoranges.pro contains

```
function AppleSandOrangeS, input
  return, input^2
end
```

(note the filenames are all lower case, whereas the routine names can be upper, lower, or mixture)

When IDL searches for a routine (if it hasn't already been compiled) it looks for a file with the same name as the routine name.

If you do this, there is limited utility to using the @ functionality to stick code in other files (exceptions, of course, exist). I use the @ include stuff for files containing just numbers that I treat as unmodifiable parameters (i.e. parameters in the Fortran sense, not the IDL argument sense)

The usual exception to the each-function-in-its-own-file rule is things like widget code where event handlers are placed in the same file as the widget creation code, e.g. mywidget.pro contains:

```
PRO Exit_Event, Event
  WIDGET_CONTROL, Event.Top, /DESTROY
END
```

```
PRO mywidget
  Top_Level_Base_ID = WIDGET_BASE( COLUMN = 1, $
    MAP = Map, $
    MBAR = Menu_Bar_ID, $
    TITLE = 'MyWidget' )
  File_Menu_ID = WIDGET_BUTTON( Menu_Bar_ID, $
    VALUE = 'File', $
    /MENU )
  File_Exit_ID = WIDGET_BUTTON( File_Menu_ID, $
    VALUE = 'Exit', $
    EVENT_PRO = 'Exit_Event', $
    /SEPARATOR, $
    UVALUE = 'Exit' )
  WIDGET_CONTROL, Top_Level_Base_ID, MAP = Map, $
    REALIZE = 1, $
```

```
UPDATE = 1
XMANAGER, 'mywidget', Top_Level_Base_ID
```

END

Note that the MAIN routine, mywidget, is AFTER the event handler. This ensures that the dependent "Exit_Event" routine is compiled whenever the "mywidget" procedure is invoked. If you put the event handler after the main routine, it would not get compiled.

paulv
--
Paul van Delst
CIMSS @ NOAA/NCEP/EMC

Subject: Re: Beginner question about the @ usage
Posted by [David Fanning](#) on Wed, 27 Jul 2005 20:09:34 GMT
[View Forum Message](#) <> [Reply to Message](#)

Paul Van Delst writes:

```
> The usual exception to the each-function-in-its-own-file rule is things like widget code where
> event
> handlers are placed in the same file as the widget creation code, e.g. mywidget.pro contains:
>
> PRO Exit_Event, Event
>   WIDGET_CONTROL, Event.Top, /DESTROY
> END
>
> PRO mywidget
>   Top_Level_Base_ID = WIDGET_BASE( COLUMN = 1, $
>                               MAP = Map, $
>                               MBAR = Menu_Bar_ID, $
>                               TITLE = 'MyWidget' )
>   File_Menu_ID = WIDGET_BUTTON( Menu_Bar_ID, $
>                               VALUE = 'File', $
>                               /MENU )
>   File_Exit_ID = WIDGET_BUTTON( File_Menu_ID, $
>                               VALUE = 'Exit', $
>                               EVENT_PRO = 'Exit_Event', $
>                               /SEPARATOR, $
>                               UVALUE = 'Exit' )
>   WIDGET_CONTROL, Top_Level_Base_ID, MAP = Map, $
>                               REALIZE = 1, $
>                               UPDATE = 1
```

> XMANAGER, 'mywidget', Top_Level_Base_ID
>
> END
>
>
> Note that the MAIN routine, mywidget, is AFTER the event handler. This ensures that the dependent
> "Exit_Event" routine is compiled whenever the "mywidget" procedure is invoked. If you put the event
> handler after the main routine, it would not get compiled.

Paul is certainly correct, but I do wish he had named that event handler MYWIDGET_EXIT_EVENT. Giving arbitrary names to utility routines (for, in fact, this is what any module in the file *before* the main or command module is) will lead you, eventually, to spending a long week trying to figure out why your code works perfectly sometimes and not at all other times. :-)

Here is an article if you are interested in learning more:

<http://www.fanning.com/tips/namefiles.html>

Cheers,

David

--

David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Subject: Re: Beginer question about the @ usage
Posted by [Mathieu Malaterre](#) on Wed, 27 Jul 2005 20:17:15 GMT
[View Forum Message](#) <> [Reply to Message](#)

<snip>

>
> Note that the MAIN routine, mywidget, is AFTER the event handler. This
> ensures that the dependent "Exit_Event" routine is compiled whenever the
> "mywidget" procedure is invoked. If you put the event handler after the
> main routine, it would not get compiled.

Paul,

Thank you ! This is extremely usefull.

I was sort of surprised that @ was not really documented, and since the Windows interface does not allow <right click+goto file> on the '@' I was wondering if anybody was really using it.

Thanks again,
Mathieu

Subject: Re: Beginer question about the @ usage
Posted by [Paul Van Delst\[1\]](#) on Wed, 27 Jul 2005 20:41:27 GMT
[View Forum Message](#) <> [Reply to Message](#)

David Fanning wrote:

- > Paul is certainly correct, but I do wish he had named
- > that event handler MYWIDGET_EXIT_EVENT. Giving
- > arbitrary names to utility routines (for, in fact,
- > this is what any module in the file *before* the main
- > or command module is) will lead you, eventually, to
- > spending a long week trying to figure out why your
- > code works perfectly sometimes and not at all other
- > times. :-)

Yes, you're right. But dealing with two subjects (compilation stuff and namespace pollution) in the same post is more than I can handle right now. The excessive heat is trickling through the plate glass in spite of the AC and I'm sleepy... :o)

But, rest assured, the widgetapp I culled the example from follows your advice. Everything of any consequence is prefixed with "SurfaceFWDTLMtest_". I guess this could also be thought of as a form of namespace pollution depending on one's level of verbosity (mine is quite high :o)

paulv

--

Paul van Delst
CIMSS @ NOAA/NCEP/EMC

Subject: Re: Beginer question about the @ usage
Posted by [Mathieu Malaterre](#) on Wed, 27 Jul 2005 20:46:14 GMT
[View Forum Message](#) <> [Reply to Message](#)

- > <http://www.fanning.com/tips/namefiles.html>
- > ^ 404

Thanks. Do you actually know by heart all your tips and there full path
? :)

Matheiu

Subject: Re: Beginer question about the @ usage
Posted by [Mathieu Malaterre](#) on Wed, 27 Jul 2005 20:49:32 GMT
[View Forum Message](#) <> [Reply to Message](#)

BTW Paul,

Did you on purpose use lower case for function and upper case for
procedure or is this only pure coincidence ? Seems like people prefer
the FORTRAN approach where everything is in upper case, (except the
filename which seems to have to be in lower case).

Comments welcome
Mathieu

Subject: Re: Beginer question about the @ usage
Posted by [David Fanning](#) on Wed, 27 Jul 2005 20:54:10 GMT
[View Forum Message](#) <> [Reply to Message](#)

Mathieu Malaterre writes:

> Thanks. Do you actually know by heart all your tips and there full path
> ? :)

Are you kidding!? If I could remember this stuff I sure as
hell wouldn't be spending all the time it takes to write
it down. :-)

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Subject: Re: Beginer question about the @ usage
Posted by [Mathieu Malaterre](#) on Wed, 27 Jul 2005 20:56:02 GMT

David Fanning wrote:

> Mathieu Malaterre writes:

>

>

>> Thanks. Do you actually know by heart all your tips and there full path

>> ? :)

>

>

> Are you kidding!? If I could remember this stuff I sure as

> hell wouldn't be spending all the time it takes to write

> it down. :-)

Since you actually typed the url with a typo I understood you knew them all by heart (==there full path on the web server)...

2 cents,
Mathieu

Subject: Re: Beginer question about the @ usage

Posted by [Mathieu Malaterre](#) on Wed, 27 Jul 2005 20:57:25 GMT

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

Mathieu Malaterre wrote:

> BTW Paul,

>

> Did you on purpose use lower case for function and upper case for

> procedure or is this only pure coincidence ? Seems like people prefer

> the FORTRAN approach where everything is in upper case, (except the

> filename which seems to have to be in lower case).

How about this one ?

<http://groups-beta.google.com/group/comp.lang.idl-pvwave/msg/e2e07789972a7ecd?hl=en&>

Subject: Re: Beginer question about the @ usage

Posted by [Paul Van Delst\[1\]](#) on Wed, 27 Jul 2005 20:58:15 GMT

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

Mathieu Malaterre wrote:

> I was sort of surprised that @ was not really documented,

Well, as an IDL beginner, you better get used to that. :o) You'll find there quite a bit of handy stuff in IDL that is documented/cross-referenced in an, umm, interesting manner. The "@" is a

good

example actually. Its function `_is_` documented (Appendix F of the online help), but unless you know

to look for the "@" in the first place, you're pretty much stuck (i.e. the index does not have a link under the word "include files".... but it does under "batch files". Go figure).

I just grabbed my copy of Liam's IDL book from my shelf and, sure enough, in the index there is an

entry under "include files". It's worth your while to check his book out from the library or get your own copy if you're going to be using IDL for anything useful (see www.gumley.com)

paulv

--

Paul van Delst
CIMSS @ NOAA/NCEP/EMC

Subject: Re: Beginer question about the @ usage
Posted by [David Fanning](#) on Wed, 27 Jul 2005 21:02:31 GMT
[View Forum Message](#) <> [Reply to Message](#)

Mathieu Malaterre writes:

> Since you actually typed the url with a typo I understood you knew them
> all by heart (==there full path on the web server)...

Oh, I see. Well, I don't usually access the page over the Internet. I use my local copy since it is faster. Thus, I have to type the first part of the URL and copy the last part. You would think I would know my own web page address, but alas I post so infrequently these days even that is disappearing from my short-term memory. :-)

Cheers,

David

--

David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Subject: Re: Beginer question about the @ usage
Posted by [Paul Van Delst\[1\]](#) on Wed, 27 Jul 2005 21:13:10 GMT
[View Forum Message](#) <> [Reply to Message](#)

Mathieu Malaterre wrote:

> BTW Paul,
>
> Did you on purpose use lower case for function and upper case for
> procedure or is this only pure coincidence ? Seems like people prefer
> the FORTRAN approach where everything is in upper case, (except the
> filename which seems to have to be in lower case).

Coming from the unix world where there is filename case sensitivity, the filenames should be all lowercase. The name of the function or procedure in the file can be whatever you prefer.

My personal preference (that I also use in my Fortran95 code) is that IDL statements/keywords/procedures/functions/etc are in all upper case. My own routines are usually combos of upper and lower with underscores tossed in, but never all upper. Examples I type in to this newsgroup don't necessarily count :o)

My recommendation is to type stuff in such a way as to make the code as readable and understandable as possible -- to you and others. How you achieve that (via case, indenting, naming conventions, comments etc) is up to you and subject to your own personal tastes (IMO). As long as you're consistent and your code is understandable[1], don't listen to anyone that tells you you must do something a particular way[2]

paulv

[1] If a typical non-IDL knowledgable 12-15 year old can understand your code, you're doing all right. If no adolescents are available, any colleague will probably do. :o)

[2] Something I suffer from, unfortunately. It drives me nuts when people give me code that isn't lined up "correctly"! :oD

--

Paul van Delst
CIMSS @ NOAA/NCEP/EMC

Subject: Re: Beginer question about the @ usage
Posted by [Paul Van Delst\[1\]](#) on Wed, 27 Jul 2005 21:25:05 GMT
[View Forum Message](#) <> [Reply to Message](#)

Mathieu Malaterre wrote:

> Mathieu Malaterre wrote:
>
>> BTW Paul,
>>
>> Did you on purpose use lower case for function and upper case for
>> procedure or is this only pure coincidence ? Seems like people prefer

>> the FORTRAN approach where everything is in upper case, (except the
>> filename which seems to have to be in lower case).
>
>
> How about this one ?
>
> <http://groups-beta.google.com/group/comp.lang.idl-pvwave/msg/e2e07789972a7ecd?hl=en&>

Whatever floats your boat. I don't follow a lot of Michael Wallace's suggestions, but that's not at all a value judgement on his conventions. The thing I think is key is consistency. Whether you prefer lower or upper case for IDL reserved words, pick one and stick to it. There is nothing that, to me, suggests lack of care as when I see people mix conventions in code. Just because we sit in front of computers for a living doesn't mean we can't be craftsmen (craftspeeples?) and make our code creations look good.

paulv

--

Paul van Delst
CIMSS @ NOAA/NCEP/EMC

Subject: Re: Beginer question about the @ usage
Posted by [Michael Wallace](#) on Wed, 27 Jul 2005 22:16:35 GMT
[View Forum Message](#) <> [Reply to Message](#)

> I don't follow a lot of Michael Wallace's suggestions

Neither do the guys I work with. ;-)

> but that's not at all a value judgement on his conventions.
> The thing I think is key is consistency. Whether you prefer lower or
> upper case for IDL reserved words, pick one and stick to it. There is
> nothing that, to me, suggests lack of care as when I see people mix
> conventions in code. Just because we sit in front of computers for a
> living doesn't mean we can't be craftsmen (craftspeeples?) and make our
> code creations look good.

I agree completely. More important than the coding convention you choose is that you remain consistent with whatever you choose. There is no default style guide for IDL and RSI even uses inconsistent styles within their own code, so that can't be used as a style basis either. I'd recommend looking at RSI's coding style and the style used by those here in the newsgroup. You'll find that there are certain styles you like and certain ones you don't. It will take a while, but over time you'll know how to write things so that you can read them easily. That

doesn't mean that any of the rest of us will think it is easy, however. ;-)

-Mike

Subject: Re: Beginer question about the @ usage
Posted by [Antonio Santiago](#) on Thu, 28 Jul 2005 07:00:14 GMT
[View Forum Message](#) <> [Reply to Message](#)

Mathieu Malaterre wrote:

> Mathieu Malaterre wrote:

>

>> BTW Paul,

>>

>> Did you on purpose use lower case for function and upper case for
>> procedure or is this only pure coincidence ? Seems like people prefer
>> the FORTRAN approach where everything is in upper case, (except the
>> filename which seems to have to be in lower case).

>

>

> How about this one ?

>

> <http://groups-beta.google.com/group/comp.lang.idl-pvwave/msg/e2e07789972a7ecd?hl=en&>

>

This style guide is closed to my IDL style, perhaps it will be useful
for you:

http://www.customvisuals.com/IDL_Style.html

--

Antonio Santiago Piñerez
(email: santiago@grahi.upc.edu)
(www: <http://www.grahi.upc.edu/santiago>)
(www: <http://asantiago.blogspot.org>)

Grup de Recerca Aplicada en Hidrometeorologia (GRAHI)
Universitat Politècnica de Catalunya
Barcelona - SPAIN

<http://www.grahi.upc.edu>

Subject: Re: Beginer question about the @ usage
Posted by [edward.s.meinel@aero](#) on Fri, 29 Jul 2005 13:14:51 GMT
[View Forum Message](#) <> [Reply to Message](#)

I noticed that no one answered this question. DF, how could you let us down like this?

Anyway, when using @ IDL expects the full filename, unlike .compile or .run which assume a .pro extension.

You'll find that IDL does a lot of really neat things, but documentation is not one of them...

Ed

Mathieu Malaterre wrote:

>> What is the correct way to run testlib.pro ?

>

> ok I found a working example:

>

> <http://groups-beta.google.com/group/comp.lang.idl-pvwave/msg/f539ce41dda7574b>

>

> Still don't understand why PRO is needed...

>

> Mathieu

Subject: Re: Beginer question about the @ usage
Posted by [David Fanning](#) on Fri, 29 Jul 2005 13:26:41 GMT
[View Forum Message](#) <> [Reply to Message](#)

edward.s.meinel@aero.org writes:

> I noticed that no one answered this question. DF, how could you let us
> down like this?

>

> Anyway, when using @ IDL expects the full filename, unlike .compile or
> .run which assume a .pro extension.

I didn't know that! :-)

And I'm not even sure it is true. You can count the times
I've used the @ sign in the last 18 years on one hand, but
I just looked at one program where I do use it and it certainly
is using a relative path name.

But mostly I didn't answer because I didn't understand
the question. :-)

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

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