
Subject: CATCH inside a FOR loop and out?

Posted by [cgguido](#) on Mon, 14 Apr 2014 19:25:57 GMT

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

Say I want to catch two kinds of erros:

1. if error happens inside a for loop I want to deal with it and then continue with i++
2. if error happens outside the loop I want to return -1

Can this be done?

Thanks,
Gianguido

Here is what I got, which catches erros inside the loop and behaves like I want it to, but I would like to deal with ;NEWERROR differently...

```
;;-----  
PRO proerrortest
```

```
compile_opt idl2
```

```
a = 10*(indgen(10)+1)  
FOR i = 0, 9 DO BEGIN  
  CATCH, Error_status  
  IF Error_status NE 0 THEN BEGIN  
    CATCH, /CANCEL  
    PRINT, 'GCErr index: ', Error_status  
    PRINT, 'GCErr message: ', !ERROR_STATE.MSG  
    i++  
    if i gt 9 then return  
  ENDIF
```

```
  IF i EQ 3 THEN print, i, a[100]  
  IF i EQ 7 THEN print, i, a[100]  
  IF i NE 3 AND i NE 7 THEN print, i, a[i]  
ENDFOR
```

```
;NEWERROR
```

```
RETURN  
END
```

Subject: Re: CATCH inside a FOR loop and out?
Posted by [David Fanning](#) on Mon, 14 Apr 2014 19:30:06 GMT
[View Forum Message](#) <> [Reply to Message](#)

Gianguido Cianci writes:

- > Say I want to catch two kinds of erros:
- >
- > 1. if error happens inside a for loop I want to deal with it and then continue with i++
- > 2. if error happens outside the loop I want to return -1
- >
- > Can this be done?

You can put as many CATCH error handlers in your code as you like. Only one is in effect at any one time. (The last one to be executed as you step through the code.) So, just write another error handler for `NewError`.

Cheers,

David

--

David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: <http://www.idlcoyote.com/>
Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: CATCH inside a FOR loop and out?
Posted by [cgguido](#) on Mon, 14 Apr 2014 19:30:18 GMT
[View Forum Message](#) <> [Reply to Message](#)

Also, is there a useful IDL tutorial on error handling with IDL out there?

Thanks,
G

Subject: Re: CATCH inside a FOR loop and out?
Posted by [David Fanning](#) on Mon, 14 Apr 2014 19:31:58 GMT
[View Forum Message](#) <> [Reply to Message](#)

Gianguido Cianci writes:

- > Also, is there a useful IDL tutorial on error handling with IDL out there?

Uh, you could pretty much look at any program in the Coyote Library. :-)

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

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

Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: CATCH inside a FOR loop and out?

Posted by [chris_torrence@NOSPAM](#) on Tue, 15 Apr 2014 19:31:19 GMT

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

One important point - "catch" is expensive. It's better to put it outside of the for loop, and just use a "start" index to continue. Something like:

```
start = 0
catch, err
if (err ne 0) then begin
    start = i + 1
    print, 'bad error'
endif
for i=start, finish do begin
    ...
endfor
```

Cheers,
Chris

Subject: Re: CATCH inside a FOR loop and out?

Posted by [cgguido](#) on Wed, 16 Apr 2014 04:23:41 GMT

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

Thanks guys!

Chris, I especially like your suggestion!

G

On Tuesday, April 15, 2014 2:31:19 PM UTC-5, Chris Torrence wrote:

> One important point - "catch" is expensive. It's better to put it outside of the for loop, and just use a "start" index to continue. Something like:

>

>

```
>
> start = 0
>
> catch, err
>
> if (err ne 0) then begin
>
>   start = i + 1
>
>   print, 'bad error'
>
> endif
>
> for i=start, finish do begin
>
>   ...
>
> endfor
>
>
> Cheers,
>
> Chris
```

Subject: Re: CATCH inside a FOR loop and out?

Posted by [Craig Markwardt](#) on Wed, 16 Apr 2014 19:50:44 GMT

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

On Tuesday, April 15, 2014 3:31:19 PM UTC-4, Chris Torrence wrote:

> One important point - "catch" is expensive. It's better to put it outside of the for loop, and just use a "start" index to continue. Something like:

Hey Chris, is there any chance of making IDL exception handling more modern? The C language 'setjmp' exception handling model is not the best. The catch variable is kind of a clunky nuisance, and having to remember to /CANCEL your catch handler is also a bit of a chore.

A revised grammar could be as simple as this,

```
CATCH BEGIN
;; ... possibly failing code ...
END ELSE BEGIN
;; ... exception handler here ...
ENDELSE
```

No extra keywords required to be added to the language, no nuisance variables, and cleaner flow. (and no backward compatibility problems) The exception handler can look at any of the

crumpteen million !ERR* variables to decide what went wrong.

Craig

Subject: Re: CATCH inside a FOR loop and out?

Posted by [chris_torrence@NOSPAM](#) on Thu, 17 Apr 2014 17:08:32 GMT

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

On Wednesday, April 16, 2014 1:50:44 PM UTC-6, Craig Markwardt wrote:

>
> No extra keywords required to be added to the language, no nuisance variables, and cleaner flow. (and no backward compatibility problems) The exception handler can look at any of the crumpteen million !ERR* variables to decide what went wrong.
>

Crumpteen million! I like that. We should add that as an optional tick label for plots.

We've thought about adding a "try/catch/finally" form of error handling, which would be similar to what you are proposing. But I like your idea of somehow re-using the existing reserved words. We've always pushed this feature to the bottom of the list because it was unclear how many people would make use of it. But it certainly fits in with "modernizing IDL", which has been our goal since IDL 8.0.

Hmmm... Maybe now is the time.

-Chris
ExelisVIS

Subject: Re: CATCH inside a FOR loop and out?

Posted by [Michael Galloy](#) on Thu, 17 Apr 2014 20:27:53 GMT

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

On 4/17/14, 11:08 AM, Chris Torrence wrote:

> On Wednesday, April 16, 2014 1:50:44 PM UTC-6, Craig Markwardt
> wrote:
>>
>> No extra keywords required to be added to the language, no nuisance
>> variables, and cleaner flow. (and no backward compatibility
>> problems) The exception handler can look at any of the crumpteen
>> million !ERR* variables to decide what went wrong.
>>
>
> Crumpteen million! I like that. We should add that as an optional
> tick label for plots.
>

> We've thought about adding a "try/catch/finally" form of error
> handling, which would be similar to what you are proposing. But I
> like your idea of somehow re-using the existing reserved words. We've
> always pushed this feature to the bottom of the list because it was
> unclear how many people would make use of it. But it certainly fits
> in with "modernizing IDL", which has been our goal since IDL 8.0.
>
> Hmmmm... Maybe now is the time.
>
> -Chris ExelisVIS
>

CATCH is a routine, not a keyword currently. I, personally, don't think it would be so bad to add a keyword or two for nice exception handling.

Also, if you add something, I think it should have an optional "finally" clause as well.

Mike

--

Michael Galloy

www.michaelgalloy.com

Modern IDL: A Guide to IDL Programming (<http://modernidl.idldev.com>)

Research Mathematician

Tech-X Corporation

Subject: Re: CATCH inside a FOR loop and out?

Posted by [Craig Markwardt](#) on Thu, 17 Apr 2014 20:56:31 GMT

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

On Thursday, April 17, 2014 4:27:53 PM UTC-4, Mike Galloy wrote:

> CATCH is a routine, not a keyword currently. I, personally, don't think
> it would be so bad to add a keyword or two for nice exception handling.

True, but it's a system routine that everybody knows to avoid for their own routines already.

> Also, if you add something, I think it should have an optional "finally"
> clause as well.

I never understood the purpose of FINALLY, when you can just have cleanup code outside the exception handling clauses. Is it more than a visual cue?

Craig

Subject: Re: CATCH inside a FOR loop and out?

On Thursday, April 17, 2014 2:56:31 PM UTC-6, Craig Markwardt wrote:

> On Thursday, April 17, 2014 4:27:53 PM UTC-4, Mike Galloy wrote:

>

>> CATCH is a routine, not a keyword currently. I, personally, don't think

>

>> it would be so bad to add a keyword or two for nice exception handling.

>

>

>

> True, but it's a system routine that everybody knows to avoid for their own routines already.

>

>

>

>> Also, if you add something, I think it should have an optional "finally"

>

>> clause as well.

>

>

>

> I never understood the purpose of FINALLY, when you can just have cleanup code outside the exception handling clauses. Is it more than a visual cue?

>

>

>

> Craig

At least in Java, the Finally code is guaranteed to run, even if your "try" or "catch" block does a return from the routine.

-C