

---

Subject: CASE statement

Posted by [K Banerjee](#) on Fri, 07 Sep 2001 20:17:19 GMT

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In IDL, is it possible to use multiple expressions with a single statement?

Something like:

PRO CASE1, Tag

case Tag of

;; The following line does not work.

```
('TIFF') or ('tiff'): begin
  print, "TAG is TIFF"
end
```

```
else: begin
  print, "TAG is UNKNOWN"
end
```

endcase

end

Thanks.

K. Banerjee

--

"One World, One Web, One Program" -- Microsoft Promotional Ad

"Ein Reich, Ein Volk, Ein Fuhrer" -- Adolf Hitler

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---

Subject: Re: CASE statement

Posted by [David Fanning](#) on Wed, 03 Oct 2001 19:02:26 GMT

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George McCabe (george.mccabe@gsfc.nasa.gov) writes:

```
> ;+
> ; PURPOSE:
> ; "On or Off", turn any variable into a strict logical type
> ; with only two values 0 or 1
> ;
```

Impressive code, George. But couldn't this be

more simply done with this:

```
on_off = Keyword_Set(variable)
```

Cheers,

David

--

David W. Fanning, Ph.D.

Fanning Software Consulting

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

Toll-Free IDL Book Orders: 1-888-461-0155

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Subject: Re: CASE statement

Posted by [R.Bauer](#) on Thu, 04 Oct 2001 06:51:50 GMT

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David Fanning wrote:

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> on_off = Keyword_Set(variable)
>
```

Hi David and all others,

the most problem with all these functions `arg_present`, `n_elements`,  
`keyword_set`  
is that's most beginners believe that's some of them only works by  
keywords  
and some only for positional parameters.

To learn something about IDL and its parameters here are two exercises  
of our course.

regards

Reimar

1)

There are three functions given

```
FUNCTION test1,minimum=min_val
  IF KEYWORD_SET(min_val) THEN RETURN,1 ELSE RETURN,0
END
```

```
FUNCTION test2,minimum=min_val
  IF ARG_PRESENT(min_val) THEN RETURN,1 ELSE RETURN,0
END
```

```
FUNCTION test3,minimum=min_val
  IF N_ELEMENTS(min_val) GT 0 THEN RETURN,1 ELSE RETURN,0
END
```

Fill out the form:

CALL    | test1 | test2 |test3

PRINT, testX( )				
PRINT, testX(minimum=0)				
PRINT, testX(minimum=10)				
PRINT, testX(minimum=-10)				
mv=0 & PRINT, testX(minimum=mv)				
mv=10 & PRINT, testX(minimum=mv)				
PRINT, testX(minimum=mv2)				

2)

There are three functions given

```
FUNCTION test1,min_val
  IF KEYWORD_SET(min_val) THEN RETURN,1 ELSE RETURN,0
END
```

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END
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  IF N_ELEMENTS(min_val) GT 0 THEN RETURN,1 ELSE RETURN,0
END
```

Fill out the form:

CALL    | test1 | test2 |test3

PRINT, testX( )				
PRINT, testX(0)				
PRINT, testX(10)				
PRINT, testX(-10)				
mv=0 & PRINT, testX(mv)				
mv=10 & PRINT, testX(mv)				
PRINT, testX(mv2)				

--

Reimar Bauer

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Forschungszentrum Juelich

email: R.Bauer@fz-juelich.de

<http://www.fz-juelich.de/icg/icg1/>

=====

a IDL library at Forschungszentrum Juelich

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<http://www.fz-juelich.de/zb/text/publikation/juel3786.html>

=====

read something about linux / windows

<http://www.suse.de/de/news/hotnews/MS.html>

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Subject: Re: CASE statement

Posted by [george.mccabe](#) on Fri, 05 Oct 2001 16:25:16 GMT

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---

```
fordavid, arg, keyw=keyval
  print, keyword_set(keyval)
end
```

```
IDL> fordavid, 0, keyw=-1
1
```

(not the result i want)

thanks for the replies,  
george

David Fanning <david@dfanning.com> wrote in message  
news:<MPG.16250eae5225cd7e9896eb@news.frii.com>...  
> George McCabe (george.mccabe@gsfc.nasa.gov) writes:

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> on\_off = Keyword\_Set(variable)  
>  
> Cheers,  
>  
> David

---

---

Subject: Re: CASE statement  
Posted by [weitkamp](#) on Fri, 05 Oct 2001 18:44:23 GMT  
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---

Reimar,

May I summarize the first statement you make like this: "KEYWORD\_SET is a nice function, but has the wrong name"?

It actually also has some counterintuitive features. This one, for example:

```
IDL> PRINT, KEYWORD_SET([0])  
1
```

The online help describes this behavior correctly, but accidentally passing a 1-element array instead of a scalar happens easily. Wasn't there something here recently about the pitfalls of IDL making a difference between scalars and single-element arrays?

Timm

Timm Weitkamp  
European Synchrotron Radiation Facility (ESRF), Grenoble, France  
Phone: +33 4 76 88 28 86                      E-mail: [weitkamp@esrf.fr](mailto:weitkamp@esrf.fr)  
Reimar Bauer <[r.bauer@fz-juelich.de](mailto:r.bauer@fz-juelich.de)> wrote in message  
news:<3BBC0706.B983FB42@fz-juelich.de>...

> David Fanning wrote:

>>

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>> on_off = Keyword_Set(variable)

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> Hi David and all others,

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> is that's most beginners believe that's some of them only works by

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> and some only for positional parameters.

>

> To learn something about IDL and its parameters here are two exercises

> of our course.

>

>

> regards
```

>

> Reimar

>

>

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> There are three functions given

>

>

>

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>     IF KEYWORD\_SET(min\_val) THEN RETURN,1 ELSE RETURN,0

> END

>

>

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>     IF ARG\_PRESENT(min\_val) THEN RETURN,1 ELSE RETURN,0

> END

>

>

> FUNCTION test3,minimum=min\_val

>     IF N\_ELEMENTS(min\_val) GT 0 THEN RETURN,1 ELSE RETURN,0

> END

>

> Fill out the form:



```

>
>
>
>
> CALL   | test1 | test2 |test3
> _____
> PRINT, testX( )      |   |   |
> _____
> PRINT, testX(minimum=0)      |   |   |
> _____
> PRINT, testX(minimum=10)      |   |   |
> _____
> PRINT, testX(minimum=-10)      |   |   |
> _____
> mv=0 & PRINT, testX(minimum=mv)  |   |   |
> _____
> mv=10 & PRINT, testX(minimum=mv)  |   |   |
> _____
> PRINT, testX(minimum=mv2)      |   |   |
> _____
>
>
>

```

>

>

> 2)

> There are three functions given

>

>

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> FUNCTION test1,min\_val

>     IF KEYWORD\_SET(min\_val) THEN RETURN,1 ELSE RETURN,0

> END

>

>

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> END

>

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>

> Fill out the form:

>

>

```

>
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> _____
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> _____
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> _____
> mv=10 & PRINT, testX(mv)  |   |   |
> _____
> PRINT, testX(mv2)     |   |   |
> _____
>
>
>
>
> --
> Reimar Bauer
>

```

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> Forschungszentrum Juelich  
> email: R.Bauer@fz-juelich.de  
> <http://www.fz-juelich.de/icg/icg1/>  
> =====  
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>  
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> =====  
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Subject: Re: CASE statement  
Posted by [Pavel A. Romashkin](#) on Fri, 05 Oct 2001 19:03:47 GMT  
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Timm Weitkamp wrote:

>  
> It actually also has some counterintuitive features. This one, for  
> example:  
>  
> IDL> PRINT, KEYWORD\_SET([0])  
> 1

Correct me if I am wrong, but the PURPOSE of KEYWORD\_SET is to check if a KEYWORD is SET. Settable keywords are those that you either set or don't, either /K\_SET or K\_SET=0. As such, they should not be set to arrays. As far as I can see, Keyword\_Set is a convenience function. For value passing keywords, N\_elements should be used.

So, it looks to me that the name of this function means exactly what it is designed for.

Cheers,

Pavel

---

---

Subject: Re: CASE statement

Posted by [Paul van Delst](#) on Fri, 05 Oct 2001 21:08:51 GMT

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"Pavel A. Romashkin" wrote:

>

> Timm Weitkamp wrote:

>>

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>>

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> is designed for.

Excellent point.

paulv

--

Paul van Delst            Religious and cultural  
CIMSS @ NOAA/NCEP        purity is a fundamentalist  
Ph: (301)763-8000 x7274    fantasy  
Fax:(301)763-8545         V.S.Naipaul

---

---

Subject: Re: CASE statement

Posted by [weitkamp](#) on Sat, 06 Oct 2001 10:01:09 GMT

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---

Paul van Delst <paul.vandelst@noaa.gov> wrote in  
messagenews:<3BBE2163.F73A162D@noaa.gov>...

> "Pavel A. Romashkin" wrote:

>>

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```

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> Excellent point.
>
> paulv

```

Pavel and Paul,

I mostly agree with you. But when you're programming a routine, even if you do use KEYWORD\_SET in the strictly limited context that it should be, it is still possible that the user of the routine accidentally passes [0] (or [1]) instead of 0 (or 1) if the keyword is passed as an expression and not as an explicit value as in Pavel's example. Of course you may then blame the user, but that is of limited help.

Timm

---

Subject: Re: CASE statement  
 Posted by [R.Bauer](#) on Mon, 08 Oct 2001 07:19:52 GMT  
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---

Timm Weitkamp wrote:

```

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> Paul van Delst <paul.vandelst@noaa.gov> wrote in
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> passed as an expression and not as an explicit value as in Pavel's
> example. Of course you may then blame the user, but that is of limited
> help.
>
> Timm

```

Dear Timm,

you can never use a one element vector by IF Statements or e.g. by the WHERE command for comparison.

```

a=findgen(10)
print,where(a eq [1])
IDL > -1

```

```

IDL> if [1] eq [1] then print,'aa'
% Expression must be a scalar in this context: <BYTE    Array[1]>.
% Execution halted at: $MAIN$

```

Of course it's not fine that's KEYWORD\_SET don't crash if it is used with [1] or [0].

But if your arguments could be arrays then it is not the best way to use KEYWORD\_SET. As Pavel explained this function is only useful to distinguish between true (1) and false (0). In addition the variable for keyword\_set could be a positional parameter too.

This is shown by the two exercises. The result in both tabulars must be the same. If you don't believe try the examples.

Reimar

--

Reimar Bauer

Institut fuer Stratosphaerische Chemie (ICG-1)

Forschungszentrum Juelich

email: R.Bauer@fz-juelich.de

<http://www.fz-juelich.de/icg/icg1/>

=====

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=====

read something about linux / windows

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Subject: Re: CASE statement

Posted by [John-David T. Smith](#) on Mon, 08 Oct 2001 16:27:37 GMT

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---

Timm Weitkamp wrote:

>

> Paul van Delst <[paul.vandelst@noaa.gov](mailto:paul.vandelst@noaa.gov)> wrote in  
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>> paulv  
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> passed as an expression and not as an explicit value as in Pavel's  
> example. Of course you may then blame the user, but that is of limited  
> help.

The paranoid may therefore use:

if n\_elements(key) ne 0 then if keyword\_set(key[0]) then do\_something

or do you contend that key=[1,0] should also be "false"?

JD

---

---

Subject: Re: CASE statement

Posted by [David Fanning](#) on Mon, 08 Oct 2001 16:55:12 GMT

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---

JD Smith (jdsmith@astro.cornell.edu) writes:

> The paranoid may therefore use:  
>  
> if n\_elements(key) ne 0 then if keyword\_set(key[0]) then do\_something  
>  
> or do you contend that key=[1,0] should also be "false"?

Thought I would just comment on this tread, in general.

Those of us who write a lot of IDL programs  
have had to learn (of necessity, often) to  
write defensively. For example, I never check  
a string in a CASE statement without wrapping it  
in a STRUPCASE call. But, you can either write  
VERY defensive code, or you can get your work  
done. :-)

Keyword\_Set is surely one of the most abused functions out there, but even using it improperly doesn't cause many problems, most of the time. I'm all for proper programming practice, and I think I do my share to let people know the "right" way to do things (Stein Vidar be damned) :-). But, folks, the people using these programs are adults. \*We\* are adults. We know both we and they are going to make mistakes.

When that happens, fix the error and move on. Spending hours anticipating that someone is going to pass an array, of all things, to one of our keywords is wasted work, it seems to me. If it happens once, I'd fix it. If it happened twice. I'd fix it and think about it. But until they pass me three times down the line, I don't give up the center of the court for anything. :-)

Cheers,

David

--

David W. Fanning, Ph.D.  
Fanning Software Consulting  
Phone: 970-221-0438, E-mail: [david@dfanning.com](mailto:david@dfanning.com)  
Coyote's Guide to IDL Programming: <http://www.dfanning.com/>  
Toll-Free IDL Book Orders: 1-888-461-0155

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