
Subject: HELP with IF statement

Posted by [g.nacarts](#) on Thu, 25 Jun 2015 11:10:40 GMT

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I have a problem with IF statement

I wanted to check whether my array A has any zero element and if so then simply return a zero array (with two zeroes). I typed the following but am not sure if it's correct.

```
A  FLOAT = Array[58]
```

```
FOR i=0L, 57 DO BEGIN
  IF A[i] EQ 0 THEN RETURN, [0,0]
ENDFOR
```

Subject: Re: HELP with IF statement

Posted by [David Fanning](#) on Thu, 25 Jun 2015 12:22:42 GMT

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g.nacarts@gmail.com writes:

```
> I have a problem with IF statement
>
> I wanted to check whether my array A has any zero element and if so then simply return a zero
> array (with two zeroes). I typed the following but am not sure if it's correct.
>
> A  FLOAT = Array[58]
>
> FOR i=0L, 57 DO BEGIN
>   IF A[i] EQ 0 THEN RETURN, [0,0]
> ENDFOR
```

There are a whole host of articles on my web page explaining why it will be impossible to find a zero value in an array of floats. I'll just give you the bottom line: use `Floats_Equal` from the Coyote Library to do this kind of comparison:

```
IF Floats_Equal(a[i],0) THEN RETURN, [0,0]
```

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: HELP with IF statement
Posted by [g.nacarts](#) on Thu, 25 Jun 2015 12:48:30 GMT
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So for arrays with floats need to use the floats_equal to check for zeroes?

Subject: Re: HELP with IF statement
Posted by [David Fanning](#) on Thu, 25 Jun 2015 12:51:39 GMT
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g.nacarts@gmail.com writes:

> So for arrays with floats need to use the floats_equal to check for zeroes?

Only if you want to find them.

Cheers,

David

--

David Fanning, Ph.D.

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Subject: Re: HELP with IF statement
Posted by [g.nacarts](#) on Thu, 25 Jun 2015 12:56:54 GMT
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Good to know. Small details that make such a big difference. Thanks a lot.

Subject: Re: HELP with IF statement
Posted by [David Fanning](#) on Thu, 25 Jun 2015 12:59:05 GMT
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g.nacarts@gmail.com writes:

> Good to know. Small details that make such a big difference.

Yes. It's called computer programming. ;-)

Cheers,

David

--

David Fanning, Ph.D.
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Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: HELP with IF statement
Posted by [Paul Van Delst\[1\]](#) on Thu, 25 Jun 2015 15:20:56 GMT
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On 06/25/15 08:22, David Fanning wrote:

> g.nacarts@gmail.com writes:

>

>> I have a problem with IF statement

>>

>> I wanted to check whether my array A has any zero element and if

>> so then simply return a zero array (with two zeroes). I typed the

>> following but am not sure if it's correct.

>>

>> A FLOAT = Array[58]

>>

>> FOR i=0L, 57 DO BEGIN

>> IF A[i] EQ 0 THEN RETURN, [0,0]

>> ENDFOR

>

> There are a whole host of articles on my web page explaining why it will

> be impossible to find a zero value in an array of floats. I'll just give

> you the bottom line: use Floats_Equal from the Coyote Library to do this

> kind of comparison:

>

> IF Floats_Equal(a[i],0) THEN RETURN, [0,0]

Yes. My first reply when I am asked this sort of question is: "What do you think is zero?"

Or, if I'm feeling particularly obtuse: "What IS zero?" (with a suitable gesticulatory flourish, of course :o)

Funny, now that I think about it, people haven't come to ask me questions for a while now. Huh.

cheers,

paulv

Subject: Re: HELP with IF statement
Posted by [g.nacarts](#) on Thu, 25 Jun 2015 15:34:08 GMT
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Something that I don't understand. I tried to avoid the for loop created before and I replace this part of the code:

```
for i=0,n-1 do begin  
IF floats_equal(A[i],0) THEN RETURN,[0,0]  
endfor
```

By this:

```
IF norm(A) EQ 0 THEN RETURN, [0,0]
```

I thought I will end up with the same result but I didn't. Does anyone know why this happen?

Subject: Re: HELP with IF statement
Posted by [David Fanning](#) on Thu, 25 Jun 2015 15:34:29 GMT
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Paul van Delst writes:

> Funny, now that I think about it, people haven't come to ask me
> questions for a while now. Huh.

Who is going to read a whole damn article on how computers represent numbers!?

http://www.idlcoyote.com/math_tips/sky_is_falling.html

Who the hell even remembers what a "mantissa" is?

Stick to the bottom line. It is SO much easier! ;-)

Cheers,

David

--

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

Subject: Re: HELP with IF statement

Posted by [David Fanning](#) on Thu, 25 Jun 2015 15:42:17 GMT

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g.nacarts@gmail.com writes:

> Something that I don't understand. I tried to avoid the for loop created before and I replace this part of the code:

>

> for i=0,n-1 do begin

> IF floats_equal(A[i],0) THEN RETURN,[0,0]

> endfor

>

> By this:

>

> IF norm(A) EQ 0 THEN RETURN, [0,0]

>

> I thought I will end up with the same result but I didn't. Does anyone know why this happen?

Most of the people who follow this newsgroup knows why it happens:

http://www.idlcoyote.com/math_tips/sky_is_falling.html

http://www.idlcoyote.com/math_tips/storenum.html

http://www.idlcoyote.com/math_tips/razoredge.html

http://www.idlcoyote.com/code_tips/lhsvsrhs.html

http://www.idlcoyote.com/math_tips/double.html

Cheers,

David

--

David Fanning, Ph.D.

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

Subject: Re: HELP with IF statement

Posted by [David Fanning](#) on Thu, 25 Jun 2015 15:46:35 GMT

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David Fanning writes:

> Most of the people who follow this newsgroup knows why it happens:

>

> http://www.idlcoyote.com/math_tips/sky_is_falling.html

> http://www.idlcoyote.com/math_tips/storenum.html

> http://www.idlcoyote.com/math_tips/razoredge.html

> http://www.idlcoyote.com/code_tips/lhsvsrhs.html
> http://www.idlcoyote.com/math_tips/double.html
>

And, maybe the most relevant for your proposes:

http://www.idlcoyote.com/code_tips/comparearray.html

Although, it won't make any sense to you, probably, without the background of the previous articles.

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

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

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Subject: Re: HELP with IF statement

Posted by [David Fanning](#) on Thu, 25 Jun 2015 15:53:58 GMT

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David Fanning writes:

> And, maybe the most relevant for your proposes:

Sigh... Fingers have not only retired, but apparently have run off with a loose woman, too. :-(

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: HELP with IF statement

Posted by [Paul Van Delst\[1\]](#) on Thu, 25 Jun 2015 16:41:42 GMT

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On 06/25/15 11:34, David Fanning wrote:

>
> Who the hell even remembers what a "mantissa" is?
>
It's a herbivorous marine mammal, no?

In Oz, we called them dugongs. Or significands.

ehem.
