Subject: Re: histogram and UINT

Posted by Kenneth P. Bowman on Wed, 17 Mar 2010 18:36:48 GMT

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In article

<ab4b613a-31e0-48ab-9472-6c840fb0fafa@o30g2000yqb.googlegroups.com>, Jeremy Bailin <astroconst@gmail.com> wrote:

- > I've discovered an interesting "feature" in histogram... I'm sure it's
- > the expected behaviour, but in this case it had a consequence that
- > bit me.

_

- > I have some unsigned integer input data that I want to histogram. I'm
- > looking at things right around the saturation level, so most of the
- > data is exactly 65535, but I also want a bin past that. The following
- > works:

>

- > h = histogram(data, min=65500ul, max=65535ul)
- > But the following doesn't:

>

- > h = histogram(data, min=65500ul, max=65536ul)
- > % HISTOGRAM: Illegal binsize or max/min.

>

- > What seems to be happening is that the min/max values are cast into
- > the same data type as data, in this case giving a nonsensical max of
- > 0u. To do what I want, I need to cast data into a ULONG in this
- > histogram call... or use max=65535u and append an appropriate number
- > of 0s onto h.

>

> -Jeremy.

It seems logical to me that HISTOGRAM would take type information from the input variable, not the keywords. (The keywords are optional.)

And since integer arithmetic 'wraps around'

the result is to be expected.

I did notice that with IDL 7.1.1 on Mac OS X, using the U suffix creates a ULONG, not a UINT. This clearly contradicts the documentation.

You have to use US to create a UINT.

Subject: Re: histogram and UINT

Ken Bowman

```
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On 3/17/10 12:36 PM, Kenneth P. Bowman wrote:
> I did notice that with IDL 7.1.1 on Mac OS X, using the U suffix
> creates a ULONG, not a UINT. This clearly contradicts the documentation.
> IDL> help, 65U, 65US
> <Expression>
                  ULONG
                                    65
> <Expression>
                  UINT
                                65
                          =
>
> You have to use US to create a UINT.
> Ken Bowman
That is not what I get:
IDL> help, 65u
<Expression> UINT
                             65
Do you have "compile_opt defint32" in a startup file?
Mike
www.michaelgalloy.com
Research Mathematician
```

Posted by Michael Galloy on Wed, 17 Mar 2010 21:57:06 GMT

Subject: Re: histogram and UINT Posted by Kenneth P. Bowman on Wed, 17 Mar 2010 23:58:48 GMT View Forum Message <> Reply to Message

In article <hr/>hnrj7g\$hqh\$1@speranza.aioe.org>, mgalloy <mgalloy@gmail.com> wrote:

- > On 3/17/10 12:36 PM, Kenneth P. Bowman wrote:
- >> I did notice that with IDL 7.1.1 on Mac OS X, using the U suffix
- >> creates a ULONG, not a UINT. This clearly contradicts the documentation.

>>

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                               65
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 Do you have "compile_opt defint32" in a startup file?
> Mike
```

Hmm.

This part of the docs

IDL Programmer's Guides - Defining and Using Constants - Integer Constants

implies that U and US are identical.

OTOH, the table in the DEFINT section implies that the constant 42U does not include a type specifier.

Huh?

There may be a good reason for this syntactical subtlety (aka "a really obscure feature"), but ITTVIS REALLY needs to make this clearer in the docs.

Ken

Subject: Re: histogram and UINT Posted by Michael Galloy on Thu, 18 Mar 2010 16:32:09 GMT View Forum Message <> Reply to Message

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On 3/17/10 5:58 PM, Kenneth P. Bowman wrote:

> In article<hnrj7g$hqh$1@speranza.aioe.org>,

> mgalloy<mgalloy@gmail.com> wrote:

> On 3/17/10 12:36 PM, Kenneth P. Bowman wrote:

> Hmm.

> This part of the docs
```

> >

IDL Programmer's Guides - Defining and Using Constants - Integer Constants

>

implies that U and US are identical.

>

> OTOH, the table in the DEFINT section implies that the constant 42U does not include a type specifier.

> > Huh?

>

- > There may be a good reason for this syntactical subtlety (aka "a really
- > obscure feature"), but ITTVIS REALLY needs to make this clearer in the docs.

I think the docs just need to be cleaned up a bit. Clearly, "u" should modify the specified type (and the default integer type if no type is specified) just like "x" or "o" modify the base of the specified type.

Mike

www.michaelgalloy.com Research Mathematician **Tech-X Corporation**