Subject: Re: help: Type & size checking
Posted by Phil Aldis on Thu, 25 Mar 1999 08:00:00 GMT
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In article <7dd618$j5i@hermes.fundp.ac.be>,
"Tri VU KHAC" <tvk@info.fundp.ac.be> wrote:
> Hi folks,
> Given a structured variable, how can I verify its type and its size as
> in C/C++ (sizeof, typeof) ?
> Thanks in advance.
> Best regards.
> Tri.
>
>

I presume a structured variable means just a structure, in which case it's quite simple. I'm not entirely sure what sizeof returns, but if you're trying to find out the number of tags in the structure then the function is N_Tags

```
IDL> mystruct = {string:'', integer:0,float:0.}
IDL> print, N_Tags(mystruct)
          3
```

If however you want to find tou the actual byte size of it then specify the keyword LENGTH like this:

```
IDL> print, N_Tags(mystruct, /LENGTH)
         16
```

Remember /LENGTH means LENGTH=1, which sets the keyword.

However bear in mind this excerpt from the IDL help files:

> Note The length of a structure is machine dependent. The length of a given structure will vary depending upon the host machine. IDL pads and aligns structures in a manner consistent with the host machine's C compiler.

The way to find out the type of a variable is to use the Size function with the type keyword set. The different variables are numbered like this (check out the help file on Size)

0 Undefined
1 Byte
2 Integer
3 Longword integer
4 Floating point
5 Double-precision floating
6 Complex floating
7 String

8 Structure
9 Double-precision complex
10 Pointer
11 Object reference
12 Unsigned Integer
13 Unsigned Longword Integer
14 64-bit Integer
15 Unsigned 64-bit Integer

However, bear in mind that 12-15 are specific to IDL5.2.

```
IDL> print, Size(mystruct, /TYPE)
        8
IDL> print, Size(mystruct.integer, /TYPE)
        2
```

.....so you can find out that mystruct is a structure and and that the integer tag is an integer.

Anyway I hope this all helps.

Cheers,
Phil

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