
Subject: Re: Could you explain why this happen?

Posted by [Michael Galloy](#) on Wed, 28 Apr 2010 17:04:06 GMT

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On 4/28/10 10:46 AM, Bryan wrote:

> This may be a stupid question, but I really want to know why.

> Please, see below and explain. Thanks.

>

> IDL> print, 132*30

> 3960

> IDL> print, 132*30*10

> -25936

> IDL> print, 132*300

> -25936

> IDL> data1 = 132

> IDL> data2 = 300

> IDL> data3 = data1*data2

> IDL> print, data3

> -25936

The default integer in IDL is a 16-bit signed integer (i.e., INT), range -32768 to 32767. Your calculation involved two of these 16-bit integers, so IDL calculated a result which was a 16-bit integer, wrapping around to negative values in the process:

IDL> help, 132

<Expression> INT = 132

IDL> help, 300

<Expression> INT = 300

IDL> help, 132 * 300

<Expression> INT = -25936

The way to fix this to get the "correct" result is to make one or both of the operands in the operation be of type long, making the result of type long (range -2³¹ to 2³¹ - 1):

IDL> help, 132L * 300L

<Expression> LONG = 39600

Mike

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