Subject: Re: significant figures function?
Posted by Ben Tupper on Mon, 26 Feb 2001 23:44:11 GMT
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You try the following.

```
;------start
;+
; NAME:
; ROUNDPV
;
; PURPOSE:
; This function returns a rounded value to a specified place value for
Integer, Long, Float, And
;  Double precision values.
;
; CATEGORY:
; Miscellaneous, Math
;
; CALLING SEQUENCE:
;  Result = RoundPV(Value, PlaceValue)
;
;
; INPUTS:
;  Value  A scalar or vector of type integer, long integer, float or double
precisions.
; PlaceValue  An integer specifying the plave value to round toward.
Positive and negative values
;  are permitted.
;
; OPTIONAL INPUTS:
; None
;
; KEYWORD PARAMETERS:
; None
;
; OUTPUTS:
; This function returns the rounded value to the spcified place value.
;
; OPTIONAL OUTPUTS:
; None
;
; COMMON BLOCKS:
; None.
;
; SIDE EFFECTS:
; None known.
;
```

```
; RESTRICTIONS:
; None known.
;
; EXAMPLE:
; X = 321.489
; For i = -2, 2 Do Print, RoundPV(X, i)
;      321.480
;      321.400
;      321.000
;      320.000
;      300.000
;
; Specifying a negative place value for an integer or long type data value
has no effect.  For example
; X = 321L
; For i = -2, 2 Do Print, RoundPV(X, i)
;         321
;         321
;         321
;         320
;         300
;
; MODIFICATION HISTORY:
;  Written by: Ben Tupper  30 SEP 1999
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;
;  6 FEB 2000  Dropped call to home grown TYPE function in favor of SIZE
function
;    with STRUCTURE keyword set.
;
;-


FUNCTION RoundPV, X, PV

If N_elements(PV) EQ 0 Then PV = 0
Sz = Size(X, /Str)

Case Sz.Type of

2: X2 =  Fix(Float(Long(Float(X)*10.^(-PV)))*10.^PV)
3: X2 =  Long(Float(Long(FLoat(X)*10.^(-PV)))*10.^PV)
4: X2 = Float(Long(X*10.^(-PV)))*10.^PV
5: X2 = Double(Long(X*10.d^(-PV)))*10.d^PV
```

Else:

EndCase

Return, X2

END

;------finish

Med Bennett wrote:

> Has anyone written a function that returns the input value or array with
> a specified number of significant digits? I have lloked at the various
> IDL libraries on the web but did not come up with what I'm after.
> Thanks in advance for any pointers -

--
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