
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 place 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 specified 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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