Subject: Loop Limit Error
Posted by eak on Wed, 01 Dec 1999 08:00:00 GMT
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All,

Greetings. The function attached below is giving me the following error:

```
IDL> pkp79 = makeRegularStep(pkp.propTime[10880:42511],
pkp.pkp[10880:42511], 15)
% Loop limit expression too large for loop variable type.
  <LONG     (       35038)>.
% Execution halted at:  MAKEREGULARSTEP    40
C:\kp\idl\makeRegularStep.pro
%                       $MAIN$
```

I tried to work around this but failed. If one of guru like status can advise me whether I:

a) Am doing this all wrong the smart way is X.
b) Should split large arrays in bite size chunks (annoying)
c) Declare the loop somehow with a better "i" type.
d) Give up IDL programming and move to Havanna.

The summary of the function is that I have two arrays (PosixMinute, Values). The sample rate is sudo random centered around 15 minutes. I want to get niced regularly sampled data out where value = NAN if no samples in period, value = value if one sample, and if more than one sample in the period average them.

Help as always appreciated!

Thanks

Eric

---------- FUNCTION ----------

```
;+
; NAME:
;  makeRegularStep
;
; PURPOSE:
;   This function takes a set of irregularly spaced time series data
along with time stamps
```

```
;   and rebins it into regular fixed step values.
;
; CATEGORY:
;   Time tool.
;
; CALLING SEQUENCE:
;
;   regularStepData = makeRegularStep( timeArray, dataArray, binsize)
;
; INPUTS:
;   TimeArray: The time steps of the orginal data. Must be some type of
posix.
;   DataValues: The values of the data at the time steps above.
;   Binsize: The size of the regular bin desired in same units as
TimeArray
;
; KEYWORD PARAMETERS:
;
; OUTPUTS:
;   Array: An array of regularly sampled data. Contains NAN if no sample
in the cell,
;          average if the cell contains multiple samples.
;
; EXAMPLE:
;   regularStepData = makeRegularStep( timeArray, dataArray, binsize)
;   will take the irregularly sampled dataArray and return a nice
binsize sampled regularStepData
;
; MODIFICATION HISTORY:
;   Written by: Eric A. Kihn , Nov 29, 1999
;-
FUNCTION makeRegularStep, timeArray, dataArray, binsize


   hist = histogram (timeArray,binsize = binsize, rev = ri) ; assumes
15 min binsize
   tmpArray = fltarr(size(hist, /N_Elements) - 1); Set a new data array
with right num elements
   zsize = size(hist, /N_Elements);
   for i = 0 , zsize -2, 1 do begin

     if (ri(i+1) eq ri(i)) then begin; No Elements in this bin set the
data to NAN
       tmpArray(i) = !VALUES.F_NAN
    endif else begin
       binsize = ri(i+1) - ri(i)
       tmpArray(i) = total(dataArray(ri(ri[i] : ri(i+1)-1)))/binsize
       endelse
```

```
    endfor

return, tmpArray

END
```