Subject: Re: turn a string value into variable name
Posted by loebasboy on Wed, 29 Oct 2008 14:55:16 GMT
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On 29 okt, 14:34, David Fanning <n...@dfanning.com> wrote:
> loebasboy writes:
>> On 23 okt, 23:56, David Fanning <n...@dfanning.com> wrote:
>>> Nick writes:
>>>> I am restoring over 100 .sav files and creating structures for
>>>> analysis. =A0Each .sav represents a differenct scenario and ideally I
>>>> would like to name the created structure in sequential format (case1,
>>>> case2...casen).
>
>>>> To pull the data in I am using a for loop (all .sav have identical
>>>> array names) and I'd like to use the counter to name the variable. =A0I=
>> s
>>>> it possible to turn a string into a variable name?
>
>>> The EXECUTE command can do this:
>
>> Thank you David, I had the same question !
>
> I'm glad the answer is helpful, but I would say in general
> that 9 people out of 10 who are writing code like this
> are *probably* doing the wrong thing. That is to say,
> the good reasons for creating variables on the fly,
> inside a procedure, are few and far between. I'd look
> pretty hard for alternatives before I ever coded something
> like this up.
>
> Cheers,
>
> David
>
> --
> David Fanning, Ph.D.
> Fanning Software Consulting, Inc.
> Coyote's Guide to IDL Programming:http://www.dfanning.com/
> Sepore ma de ni thui. ("Perhaps thou speakest truth.")- Tekst uit oorspronkelijk bericht niet
weergeven -
>
> - Tekst uit oorspronkelijk bericht weergeven -

To know if my code is good coding I'll explain myself why I want to
use this type of coding.

I want to write function to read data out of a HDF5 file with a
certain structure. The HDF5 file consists of a digital aerial image

with callibration information per band and such. What I wanted to do is that I want to read in the central wavelength of a band, analyse it and define the name of that band so that I can write the data of the band in a variable with the right name of that band. Lets say that the central wavelength of this band is 752 nm, I would like to write the information of this band in the variable "NIR". So I first read in the central wavelength of a certain band, compare it with a reference value (depends on the sensor), and then write the information of the band in the right named variable. In this way I could do analyses with logical named variables...for instance, the calculation of the NDVI simply becomes (NIR-R)/(NIR+R) in the code.

The code:

```
        FOR m = 0, nr_bands[0]-1 DO BEGIN
          ctrlwav_str =  string("/SensorData/Band",string(m+1,
format='(I03)'),"/SpectralResponse/CentralWavelength")
          dataset_id = H5D_OPEN(file_id, ctrlwav_str)
          ctrlwav[m] = H5D_READ(dataset_id)
          H5D_CLOSE, dataset_id
          IF (abs(ctrlwav[m] - color_id[0]) LT 0.015) THEN
col_band[m] = "PAN"
          IF (abs(ctrlwav[m] - color_id[1]) LT 0.015) THEN
col_band[m] = "B"
          IF (abs(ctrlwav[m] - color_id[2]) LT 0.015) THEN
col_band[m] = "G"
          IF (abs(ctrlwav[m] - color_id[3]) LT 0.015) THEN
col_band[m] = "R"
          IF (abs(ctrlwav[m] - color_id[4]) LT 0.015) THEN
col_band[m] = "NIR"
          data_str =  string("/SensorData/Band",string(m+1,
format='(I03)'),"/SensorData")
          dataset_id = H5D_OPEN(file_id, data_str)
          tmp = Execute(col_band[m] + ' = H5D_READ(dataset_id)')
          H5D_CLOSE, dataset_id
        ENDFOR
```