Subject: Re: Is there a work around to save multiple variables with same head but different tails without listing all of them?
Posted by voidspace on Thu, 29 Sep 2011 13:26:48 GMT
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> On Sep 29, 8:03 am, Dave Poreh <d.po...@gmail.com> wrote:
>
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>
>> On Sep 29, 4:50 am, "Brian J. Daniel" <Daniels...@yahoo.com> wrote:
>
>>> On Sep 29, 5:10 am, voidspace <jhkim...@gmail.com> wrote:
>
>>>> Hello folks,
>
>>>> I have a question at beginner's level. When I saved multiple variables
>>>> with same head but different tails in IDL, I found it is tedious to
>>>> type all of them in as follows.
>
>>>> SAVE, sst_cccma_cgcm3_1, sst_cnrm_cm3, sst_csiro_mk3_0,
>>>> sst_gfdl_cm2_0, sst_gfdl_cm2_1, $
>>>> sst_iap_fgoals1_0_g, sst_inmcm3_0, sst_ipsl_cm4,
>>>> sst_miroc3_2_medres, sst_mpi_echam5, $
>>>> sst_mri_cgcm2_3_2a, sst_ncar_ccsm3_0, sst_ncar_pcm1,
>>>> sst_ukmo_hadcm3, sst_ukmo_hadgem1, $
>>>> FILENAME='sst_cmip3_20c3m.sav'
>
>>>> The '/All' keyword may help, but there are more variables that I don't
>>>> want to save in. This aroused my curiosity, so I post my question here
>>>> to know whether there is a workaround.
>
>>>> In fact, I tried to find an advanced way by myself, but found it's
>>>> difficult to know without an expert's guidance.
>
>>>> An attempt with my best knowledge is as follows. As all model names
>>>> from 'cccma_cgcm3_1' to 'ukmo_hadgem1' are saved in a string array
>>>> 'model', I considered the 'EXECUTE' command.
>
>>>> One prior step I did was saving 15 variable names in one single string
>>>> array 'sst'.
>
>>>> IDL> sst=STRARR(N_elements(model))
>>>> IDL> FOR i=0, N_elements(model)-1 DO sst[i]='sst_'+model[i]
>
>>>> Now, 'sst' contains 15 different variable names that I want to save
>>>> in. Then, tried the following
>

>>>> IDL> result=EXECUTE("SAVE, FILENAME='sst_cmip3_20c3m.sav', "+sst[i])
>
>>>> but in stuck because I have no idea how to make an implicit loop for
>>>> 'sst[i]'.
>
>>>> My attempt seems not a right way. I also thought it would be
>>>> convenient if there is implicit do-loop like (sst(i),i=1,15) in
>>>> Fortran, but I immediately got that it's nothing but a stupid idea.
>
>>>> I thought over and googled as well but all were in vain.
>
>>>> Can anybody suggest me a nice way to simplify the tedious command
>>>> aforementioned?
>
>>>> Best,
>>>> John
>
>>> You've already done the hard part, which is the string manipulation to
>>> create your 'sst' array. The final step is to use StrJoin to bring
>>> the array into one string joined by ', '. See below (UNTESTED).
>
>>> result=EXECUTE("SAVE, FILENAME='sst_cmip3_20c3m.sav', strJoin(sst,',
>>> ',/Single))
>
>> Can you prepare a simple example? method seems quite good for me!
>> Cheers,
>> Dave
>
> pro save_variables_example
>
> ;create simple variables
> sst_cccma_cgcm3_1 = 1
> sst_cnrm_cm3 = 2
> sst_csiro_mk3_0 = 3
> sst_gfdl_cm2_0 = 4
> sst_gfdl_cm2_1 = 5
> sst_iap_fgoals1_0_g = 6
> sst_inmcm3_0 = 7
> sst_ipsl_cm4 = 8
> sst_miroc3_2_medres = 9
> sst_mpi_echam5 = 10
> sst_mri_cgcm2_3_2a = 11
> sst_ncar_ccsm3_0 = 12
> sst_ncar_pcm1 = 13
> sst_ukmo_hadcm3 = 14
> sst_ukmo_hadgem1 = 15
>
> sst = ['sst_cccma_cgcm3_1', 'sst_cnrm_cm3', 'sst_csiro_mk3_0',$

```
>         'sst_gfdl_cm2_0', 'sst_gfdl_cm2_1', 'sst_iap_fgoals1_0_g', $
>         'sst_inmcm3_0', 'sst_ipsl_cm4', 'sst_miroc3_2_medres', $
>         'sst_mpi_echam5', 'sst_mri_cgcm2_3_2a', 'sst_ncar_ccsm3_0', $
>         'sst_ncar_pcm1', 'sst_ukmo_hadcm3', 'sst_ukmo_hadgem1']
>
>  Result = Execute('SAVE, FILENAME="sst_cmip3_20c3m.sav", '+$
>         strJoin(sst,', ',/Single)+' ,/Verbose')
>
>  END
```

Thanks again for this good example!
I need to look through the powerful functions related to string manipulation.

Best,
John
