Subject: general ASCII table import (was: how to find number of lines in an ASCII file?)
Posted by Helge.Rebhan on Fri, 21 Aug 1998 07:00:00 GMT
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In article <6rhk5k$5d0$1@hammer.msfc.nasa.gov>,
mallors@crazyhorse.msfc.nasa.gov (Robert S. Mallozzi) wrote:

> In article <6rdfig$756@post.gsfc.nasa.gov>,
> jyli@redback.gsfc.nasa.gov (Jason Li) writes:
>> Hi,
>>
>> I have an ASCII text file that contains data in a nice tabular form,
>>
>> .
>>
>> I want to read them all and save into an array:
>> data[8, numberOfLines]. But
>> I don't know numberOfLines in the file before hand.
>> What is the most efficient way to find that out?
>
> Here is yet another method:
>
> IDL does not need to know the number of lines in the file. It
> will dynamically increase the array for you. Assuming you know
> how many columns are in the file, I would read it into an array of
> structures as follows:
>
> data = {c1: 0L, c2: 0L, c3: 0.0, ..., c8: 0.0}

Hello !

This method still has the disadvantage to fix the number of colums !
Although I'm sure there are 1299 solutions to the general problem
of ASCII table import into IDL here is my version which reads *any* regular
formatted table in a 2D-Float-Array:
(Sorry for the comments in german)

```
-------------------------------------------------------
;liese naechste Datenzeile, Kommentarzeilen mit ';' oder '!' skippen
FUNCTION readnextline,lun,line
  ok=0
  while not eof(lun) and ok eq 0 do begin
     readf,lun,line
     bl= byte(strtrim(line,2))
     ok=1                    ;suche Kommentarzeilen
     if bl(0) eq 59 then ok=0  ; ;
     if bl(0) eq 33 then ok=0  ; !
```

```
    IF bl(0) eq 35 then ok=0  ; #
    if strlen(line) eq 0 then ok=0
  end
  return,ok
end
;
FUNCTION readtab, filename, cols=cols
;+
; NAME:
;
;      READTAB
;
; PURPOSE:
;
;      Read any kind of ASCII-tables into floating point array
;      Empty Lines or lines starting with ';','#' or '!' are ignored
;
; CATEGORY:
;
;      Input/Output
;
; CALLING SEQUENCE:
;
;      var= READTAB(filename, [cols])
;
; INPUTS:
;
;      Filename  -  Input Datafile
;
;
; KEYWORD PARAMETERS:
;
;      COLS - Vektor with colum numbers to pick, otherwise all
;             colums are returned
;
; OUTPUTS:
;
;      Floating point array with dimension specified by Colums and
;      Rows in the input file
;
;-

;  on_error, 2
  if n_params() eq 0 then message,'*** Aufruf var=READTAB(filename)'
  openr,lun,filename,/get_lun
  line=''

;erste Zeile lesen
```

```
  if readnextline(lun,line) eq 0 then message,'*** Keine Daten !'
  bl=byte(line)
  s= size(bl) & n= s(1) -1
; Anzahl der Spalten ermitteln
  ncol=0 & ws=0 & wsold=1
  for i=0,n do begin
     if bl(i) eq 32 or bl(i) eq 09 then ws=1 else ws=0
     if ws ne wsold then begin
        if ws eq 0 then ncol=ncol+1
        wsold=ws
     end
  end
  print,'File hat ',ncol,' Spalten'
  datline= fltarr(ncol)

; Zeilen lesen
  point_lun,lun,0
  i=0
  while not eof(lun) do begin
     if readnextline(lun,line) eq 1 then begin
        i=i +1
        reads,line,datline
        if i eq 1 then data=datline $
        else           data= [[data],[datline]]
     end
  end
  print,'      ',i,' Zeilen gelesen'
  close,lun & free_lun,lun

  if keyword_set(cols) then begin
     cols=cols-1              ;Spaltennr ab 1 !
     data=data([cols],*)
  end
  return,data
end
------------------------------

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```