
Subject: Re: exporting table data to a CSV file
Posted by [lefsky](#) on Mon, 22 Sep 2003 01:48:11 GMT
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The following program will export an array of structures (including structures that includes arrays and nested structures) to a csv file, with a header that include the tag-names.

```
function mk_struct_data_format,struct1,iter
struct=struct1
tn=tag_names(struct)
ntn=n_elements(tn)
if n_elements(iter) eq 0 then iter = 0

format2=""
format3=strarr(ntn)
for i=0l,ntn-1 do begin
    t=size(struct(0).(i),/type)
    nel=""
    nel_int=fix(size(struct(0).(i),/n_elements))
    if nel_int ne 1 then nel=string(nel_int)
    prefix=' '
    if i eq 0 and iter eq 0 then prefix=""
    if t eq 7 then format3(i)=nel + '(A20,"|")'
    if t eq 8 then format3(i)=mk_struct_data_format(struct(0).(i),0)
    if t ne 7 and t ne 8 then format3(i)=nel + '(F20.8,"|")'

endfor

count=0
format4=""

prefix=""
for i=0l,ntn-1 do begin

    if i eq 0 then begin
        curr_format=format3(i)
        count=1
    endif

    if i ne 0 then begin

        if format3(i) eq curr_format then count=count+1

        if format3(i) ne curr_format then begin
            format4=format4+prefix+string(count)+'('+curr_format+' '
            count = 1
        endif
    endif
endfor
```

```

    curr_format=format3(i)
    if prefix eq " then prefix=', '
endif

```

```

endif

```

```

;print,i,curr_format,count
endfor

```

```

format4=format4+prefix+string(count)+'('+curr_format+')'

```

```

format4=strcompress(format4,/remove_all)

```

```

return,format4

```

```

end

```

```

function get_all_tagnames,struct,prefix=prefix
FORWARD_FUNCTION get_all_tagnames
if n_elements(prefix) eq 0 then prefix=""
tn=tag_names(struct)
ntn=n_elements(tn)

```

```

if n_elements(iter) eq 0 then iter = 0
out=[]
for i=0!,ntn-1 do begin
    t=size(struct(0).(i),/type)
    nel=size(struct(0).(i),/n_elements)
    if nel eq 1 then begin
        if t ne 8 then out=[out,strcompress(prefix+tn(i),/remove_all)]
        if t eq 8 then
            out=[out,get_all_tagnames(struct(0).(i),prefix=strcompress(t n(i)+'_',/remove_all))]
        endif
        if (nel ne 1 and t ne 8) then
            out=[out,strcompress(prefix+tn(i)+string(indgen(nel)),/remove_all)]
        endif
    endif
endfor

```

```

out=out(1:*)
return,out
end

```

```

function remove_big_arr,in,maxarr
out=in
tmp=0

```

```

for i=0,n_tags(in)-1 do begin
  if n_elements(in(0).(i)) gt maxarr then tmp=[tmp,i]
endfor
if n_elements(tmp) gt 1 then begin
  out=delete_tags(in,tmp(1:*))
  return,out
endif else return,in
end

```

```

pro write_struct_psv,in1,fname,maxarr=maxarr
in=in1
close,7
openw,7,fname
if keyword_set(maxarr) then in=remove_big_arr(in,maxarr)
tn=get_all_tagnames(in)
for i=0,n_elements(tn)-1 do tn(i)=strcompress(tn(i),/remove_all)
ntn=n_elements(tn)
nin=n_elements(in)
format1=strcompress('(' + string(ntn) + '(A20,"|")',/remove_all)
;print,format1
printf,7,format=format1,tn
format2=mk_struct_data_format(in)
format2=strcompress('(' + format2 + ')',/remove_all)
for i=0,nin-1 do begin
  printf,7,format=format2,in(i)
endfor
close,7
end

```
