```
;+
; EXTRACT STRUCTURE TEST VERSION

; Author: haz  08-21-98
; modified: wk 05-01-03 : speed up the extract structure process by decreasing the times of
;                         structure concatenation
;
; SYNTAX:  EXTR_STR, structue_name ,indices, [/NO_VERBOSE]
;
; KEYWORD: NO_VERBOSE:  turn off verbose
;
;-
pro extr_str,struct,mask,no_verbose=no_verbose

; check for no matches
if(mask[0] eq -1) then begin
  print, "EXTR_STR: *warning* no matches, structure unchanged"
  return
endif

; save the tag names of the structure
tname=tag_names(struct)
nTag =n_tags(struct)
if nTag gt 999 then stop,'EXTR_STR: *Error* procedure does not support structure > 1000 tags'


; write create_struct commend into a string
; note 05/01/03 wk: EXECUTE cannot handle "long" commands. Therefore, a sub-structure is
;                   generated for every 100 (nIn) tags, then the sub-structures are concatenated
str=''
nIn=100
for i=0,(nTag-1)/nIn do begin

  ist=i*nIn
  ied=(i*nIn+(nIn-1)) < (nTag-1)    ;cannot exceed total # tags
  iseries=indgen(nIn)+ist
  struct_name = '"'+tname[ist:ied]+'"'
  struct_name =struct_name+ ',struct.('+strtrim(iseries,2)+')[mask]'

  str=strjoin(struct_name,",")      ;concatenate every variables with "," in between

  if i eq 0 then str='temp=create_struct('+str+')'  $
          else str='temp=create_struct(temp,'+str+')'
  junk=execute(str)          ;execute the "commend"

endfor

; print out verbose info into the output log (default)
if not keyword_set(no_verbose) then begin
  norig=n_elements(struct.(0))
  nnew=n_elements(temp.(0))
  print,'EXTR_STR:',nnew,' records extracted from',norig
endif

struct=temporary(temp)
```

end