Subject: Named and Anonymous structures ? Posted by robk on Fri, 06 Oct 1995 07:00:00 GMT

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I could use a refreshing idea to get me out of a problem related to structures in IDL:

I must read binary data with variable format and had no problem to write an extraction programme that reads one file per IDL session, but my main problem now is that named structures cannot be changed once defined, and at the same time, anonymous structures (which can be changed) cannot be part of other anonymous structures.

At first I wrote a procedure that works fine on one file: Below is a simplified version, reduced to the essential elements of the problem.

```
PRO an extraction.pro, struc back to main
openr,unit, 'huge_satellite_data_file_with_complex_structure',/get_lun
                                     , $ ; first part of data, always
struc1 = {named struc
             (1):
                        0
                              , $; same format
                        0L
             (2):
                             , $
             (\ldots):
                       0.
             (5): string(0)
readu,unit,struc1
struc2 = {another named struc
             (1):
                        0L
                              , $
                                 ; always same format
             (2):
                        0L
             (\ldots):
                       0.
             number of rows:0
                                     , $
             nmbr_o_records:0
     };
readu.unit.struc2 : get values for number of rows and nmbr o records
struc3 = { made to measure struc,
             first array: fltarr(number of rows, 10), $; dynamic
             another_arr: intarr(number_of_rows, 25), $; arrays
     };
array_of_struc3s = replicate({file_specific_struc},struc2.nmbr_o_records)
readu,unit,array_of_struc3s
free lun,unit
struc back to main = { pret a porter struc
                                                $
```

```
first: struc1 , $
    secnd: struc2 , $
    (3): ..... , $
    (4): ..... , $
    fifth: array_of_struc3s , $
    (6): ..... $
};
end
```

But here's my problem. I can make "struc_back_to_main" an anonymous structure, and this allows me to read files with different "nmr_o_records" but as soon as there's a file with a different "number_of_rows" I'm in trouble: "struc3" should then also be anonymous, but unfortunately anonymous structures cannot be part of other anonymous structures as I've just found out after writing several main programs that call this procedure :-(

Once this struc_back_to_main is passed to the caller, struc3 can be destroyed, as far as I'm concerned, but the only way I've managed to do that, is by exiting the IDL session.

Is there another way to destroy named structures? Can the TEMPORARY function help me out of this trouble? I have an IDL version (4..) that's newer than my manual (3.1), are there new tricks that could help me out, e.g. "C"-style pointers, things like "malloc" etc??

Any help is appreciated, thank you in advance,