

---

Subject: Re: User selectable lower array bound?

Posted by [Paul van Delst](#) on Mon, 06 Aug 2001 16:06:51 GMT

[View Forum Message](#) <> [Reply to Message](#)

---

David Fanning wrote:

```
>
> Ben Tupper writes:
>
>> I just whipped up an object to allow you to do just this kind of
>> pseudo-indexing for 1d vectors.
>
> Oh, sure, you can do it with objects. But
> isn't that, like, cheating? In any case,
> scientists are too busy to learn yet one
> more useful programming practice.
```

Mostly, yes, :o) but, with all due respect to Ben and his rather natty and cool code snippet (I'm facing north towards Maine, bowing :o), I would rephrase it more like:

"some scientists would like variable-bounds indexing to be indistinguishable from current command line vector/matrix operations without having to learn :

```
;-----START HERE
; EXAMPLE
;   IDL> x = obj_new('findgen', 11, lower = -5)
;   IDL> print, x->GetData([-4, 0, 5])
;   1.00000  5.00000  10.0000
;   IDL> obj_destroy, x
;-----
;   GetData
;-----
FUNCTION FINDGEN::GetData, Indices
Return, (*Self.Data) [Indices - Self.Lower]
END; GetData
;-----
;   SetProperty
;-----
PRO FINDGEN::SetProperty, N = N, Lower = Lower
If n_elements(Data) NE 0 Then *Self.Data = Data
If n_elements(N) NE 0 Then Begin
    ;1d vectors only
    Self.N = N[0]
    ;either 'redefine' the variable or 'undefine' it
    If Self.N GT 0 Then *Self.Data = Findgen(Self.N) Else $
        Dummy = Size(Temporary(*Self.Data))
EndIf
If n_elements(Lower) NE 0 Then Self.Lower = Lower[0]
```

```

END ; SetProperty
;-----
;   GetProperty
;-----
PRO FINDGEN::GetProperty, Data = Data, N = N, Lower = Lower
If Arg_present(Data) Then Data = *Self.Data
N = Self.N
Lower = Self.Lower
END ; GetProperty
;-----
;   Initialization
;-----
FUNCTION FINDGEN::INIT, N, LOWER = lower
If n_elements(N) EQ 0 Then Self.N = 0L Else Self.N = 0L > N[0]
If n_elements(lower) EQ 0 Then Self.Lower = 0L Else Self.Lower = Lower[0]
If Self.N GT 0 Then Self.Data = Ptr_NEW(Findgen(Self.N))   Else $
    Self.Data = Ptr_NEW(/Allocate)
Return, 1
END ; Init
;-----
;   CleanUp
;-----
PRO FINDGEN::CleanUp
If Ptr_Valid(Self.Data) Then Ptr_Free, Self.Data
END ; CleanUp
;-----
;   Definiton
;-----
PRO FINDGEN__DEFINE
Struct = {FINDGEN, $
    Data: ptr_new(), $ ; the data array
    N: 0L, $ ;this handles only 1d arrays right now
    Lower: 0L} ;the indexed address of the lower bound
END
;-----END HERE"

```

--

Paul van Delst      A little learning is a dangerous thing;  
 CIMSS @ NOAA/NCEP      Drink deep, or taste not the Pierian spring;  
 Ph: (301)763-8000 x7274      There shallow draughts intoxicate the brain,  
 Fax:(301)763-8545      And drinking largely sobers us again.  
                                  Alexander Pope.