
Subject: Re: Watersheds and Label_Region for 1d
Posted by [Ben Tupper](#) on Thu, 06 Jul 2000 07:00:00 GMT
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Hello,

I have made some progress. Well, I 've made some progress toward the Label_Region function for vectors.

I tried a number of tricks including using the REVERSE_INDICES keyword for HISTOGRAM.

In the end, I settled for the tried and true brute-force-and-ignorance approach. It's not dainty but seems to work with all of the mocked-up data I could think of.

```
;-----SNIP-----  
;  
;+  
; NAME: LABEL_VECTOR  
;  
; PURPOSE: This function returns a labeled (blob-colored) vector  
; where each unique region bears a unique region number.  
; This function is analogous to the built in LABEL_REGION function for  
IDL.  
;  
; CALLING SEQUENCE:  
; Result = LABEL_VECTOR(Vector, [BackGround])  
;  
; ARGUMENTS:  
; Vector Set this value to a numeric vector (Byte,Integer, etc.)  
; BackGround Set this argument equal to the background value  
; of the vector... that is, the value that separates the blobs.  
; If not provided, the default value of zero is used.  
;  
; KEYWORDS:  
;  
; MAXLABEL Set this keyword to a named variable to retrieve the  
; maximum label value. (Saves a MAX(Result) later.)  
;  
; EXAMPLE:  
; Generate a dummy vector... then plot it with the colorings  
; superimposed.  
; IDL> v = indgen(20)  
; IDL> v = rebin(shift(v*5,5), 80,/sample)  
; IDL> f = Label_Vector(V)  
; IDL> plot, v  
; IDL> TEK_COLOR  
; IDL> plots, indgen(80), v, color=f, /data, psym = 6  
;
```

```

; MODIFICATION HISTORY:
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;-

;-----
; Label_Vector
;-----
FUNCTION Label_Vector, Vec, BackGround ,MaxLabel = MaxLabel

LabeledVec = Fix(Vec GT 0)
N = N_elements(Vec)
MaxLabel = 0

If N_Params() EQ 2 then Background = Background[0] Else Background = 0

A = Where(Labeledvec GT 0, Count)

If Count GT 0 Then Begin

    MaxLabel = 1

    For i = A[0] , N - 1L Do Begin

        If LabeledVec[i] GT 0 Then Begin

            LabeledVec[i] = MaxLabel

        EndIf Else Begin

            If i NE N-1L Then $
                If LabeledVec[i] NE LabeledVec[i+1L] Then $
                    MaxLabel = MaxLabel +1

            EndElse

        EndFor ; i loop

    EndIf ; Count GT 0

    Return, LabeledVec

END
;-----SNIP-----

```

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