Subject: Re: about label regions
Posted by Ted Cary on Tue, 07 May 2002 00:00:05 GMT
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Xiaoying Jin wrote:

> In my case, I think this method helps. But there are thousands of regions in
> the image and the image is
> big (such as 2000*2000). If I use this method, will it be very slow since it
> will do LABEL_REGION
> on the image thousands of times. Is there any other method I can label the
> whole image at one operation?
>

If the gray levels of the regions are fairly uniform, do some type of edge detection. Mask anything that is not an edge, then you will have a mask of only region interiors. This mask is a bi-level image that you can analyze with one call to LABEL_REGION.

For edge detection of regions of uniform gray level, you might try a grayscale analog of a gradient morph to find the margins. Try something like this for your image:

```
rad = 1 ; Radius of structuring element. Change for fatter margins.
disk = Shift(Distance(2*rad+1), rad, rad) LE rad ; Create a disk structuring element.
imageDilated = Dilate(image, disk, /GRAY) ; Dilate the image with the disk.

wh = Where(image NE imageDilated) ; Find subscripts of margins.

marginMask = image ; Just create another image of same size as original.
marginMask[*] = 255 ; Pretend everything is in the interior.
marginMask[wh] = 0 ; Set margins to 0.
```

If you TVSCL the marginMask, you should see all regions of white with black borders. This is a bi-level image that can be used with LABEL_REGION.

The disadvantage of this technique is that "brighter" region margins will intrude by one pixel into dimmer regions because of the dilation, but at least it illustrates the method. Keep in mind that this assumes your regions are each monotone, as stated in the original post.

Good luck,

TC