Ppmchange User Manual

ppmchange

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NAME

ppmchange - change all pixels of one color to another in a PPM image

SYNOPSIS

ppmchange [**-closeness=***closeness_percent*] [**-remainder=***remainder_color*] [**-closeok**] [*oldcolor newcolor*] ... [*ppmfile*]

EXAMPLES

ppmchange red blue redimage.ppm >blueimage.ppm
ppmchange red red -remainder=black myimage.ppm >redblack.ppm
ppmchange -closeness=90 white white black black

DESCRIPTION

This program is part of Netpbm.

ppmchange reads a PPM image as input and changes all pixels of colr *oldcolor* to color *newcolor*. You may specify up to 256 oldcolor/newcolor pairs on the command line. **ppmchange** leaves all colors not mentioned unchanged, unless you specify the **-remainder** option, in which case they are all changed to the single specified color.

You can specify that colors similar, but not identical, to the ones you specify get replaced by specifying a "closeness" factor.

Specify the colors as described for the argument of the **ppm_parsecolor()** library routine.

If a pixel matches two different *oldcolor*s, **ppmchange** replaces it with the *newcolor* of the leftmost specified one.

The maxval of the output image is the same as that of the input image. If a *newcolor* you specify cannot be exactly represented in that maxval, **ppmchange** assumes a color that is as close as possible to what you specified but can be represented with your maxval. Unless you specify the **-closeok** option, **ppmchange** issues a warning that it is using an approximation.

A common way that you can have this maxval problem, where the color you specify cannot be represented with your maxval, is that your input is a PBM (black and white) image that you are colorizing. The maxval in this case is 1, which severely limits the colors to which you can change. To avoid this problem, use **pamdepth** to make the maxval of your input something consistent with your colors. 255 is usually a good choice.

Before Netpbm 10.22 (April 2004), **ppmchange** always behaved as if the user specified **-closeok** and there was no **-closeok** option.

OPTIONS

-closeness *closeness_percentcloseness* is an integer per centage indicating how close to the color you specified a pixel must be to get replaced. By default, it is 0, which means the pixel must be the exact color you specified.

A pixel gets replaced if the distance in color between it and the color you specified is less than or equal to *closeness* per cent of the maxval.

The "distance" in color is defined as the cartesian sum of the individual differences in red, green, and blue intensities between the two pixels, normalized so that the difference between black and white is 100%.

This is probably simpler than what you want most the time. You probably would like to change colors that have similar chrominance, regardless of their intensity. So if there's a red barn that is variously shadowed, you want the entire barn changed. But because the shadowing significantly changes the color according to **ppmchange**'s distance formula, parts of the barn are probably about as distant in color from other parts of the barn as they are from green grass next to the barn.

Maybe **ppmchange** will be enhanced some day to do chrominance analysis.

-closeok This option affects how **ppmchange** interprets a color you specify in the arguments. When you specify this option, **ppmchange** may use a color close to, but not the same as what you specify. See the description section for details.

This option was new in Netpbm 10.22 (April 2004). Before that, **ppmchange** always behaved as if you specified this option.

-remainder *color***ppmchange** changes all pixels which are not of a color for which you specify an explicit replacement color on the command line to color *color*.

An example application of this is

ppmchange -remainder=black red red

to lift only the red portions from an image, or

ppmchange -remainder=black red white | ppmtopgm

to create a mask file for the red portions of the image.

SEE ALSO

pgmtoppm, **ppmcolormask**, **ppm**

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