im2bw

Convert image to binary image, based on threshold

Syntax

```
BW = im2bw(I, level)
BW = im2bw(X, map, level)
BW = im2bw(RGB, level)
```

Description

`BW = im2bw(I, level)` converts the grayscale image `I` to a binary image. The output image `BW` replaces all pixels in the input image with luminance greater than `level` with the value 1 (white) and replaces all other pixels with the value 0 (black). Specify `level` in the range [0,1]. This range is relative to the signal levels possible for the image's class. Therefore, a `level` value of `0.5` is midway between black and white, regardless of class. To compute the `level` argument, you can use the function `graythresh`. If you do not specify `level`, `im2bw` uses the value `0.5`.

`BW = im2bw(X, map, level)` converts the indexed image `X` with colormap `map` to a binary image.

`BW = im2bw(RGB, level)` converts the truecolor image `RGB` to a binary image.

If the input image is not a grayscale image, `im2bw` converts the input image to grayscale, and then converts this grayscale image to binary by thresholding.

Class Support

The input image can be of class `uint8`, `uint16`, `single`, `int16`, or `double`, and must be nonsparse. The output image `BW` is of class `logical`. `I` and `X` must be 2-D. RGB images are `M`-by-`N`-by-3.

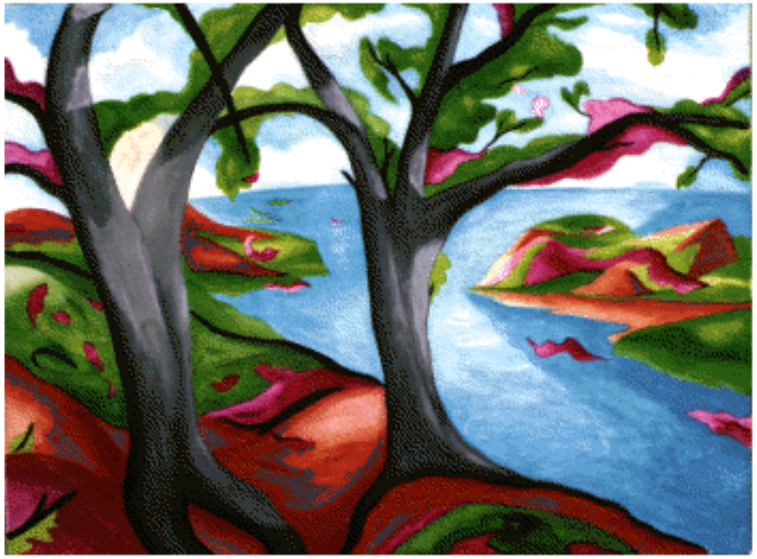
Examples

collapse all

Convert an Indexed Image To a Binary Image

Open This Example

```
load trees
BW = im2bw(X,map,0.4);
imshow(X,map), figure, imshow(BW)
```



See Also

graythresh | ind2gray | rgb2gray

Introduced before R2006a