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how can i check that my image is rgb

Asked by amir on 17 Apr 2013

Latest activity Commented on by Image Analyst MVP on 17 Mar 2018

Accepted Answer by Iman Ansari

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i need to use rgb2gray func. but first i need to check that my image is rgb or grayscale..like this :

```
if XXXXXX
c1=rgb2gray(a);
c=imadjust(c1);
else
c=imadjust(a);
subplot(2,3,1),imshow(a),title('original');
subplot(2,3,2),imshow(c),title('option 1');
end
```

what should i use insted of XXXXXX ?

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Answer by Iman Ansari on 17 Apr 2013

Edited by Iman Ansari on 17 Apr 2013

Accepted Answer

Hi

```
if size(a,3)==3
```

2 Comments

Shefali Singh on 17 Mar 2018

What is this size? M not getting what u wanna imply?

Image Analyst MVP on 17 Mar 2018

size() is a built in function that gives the lengths of the array in each of the dimensions. Who is "M"?

http://jamesbond.wikia.com/wiki/M_(Judi_Dench)

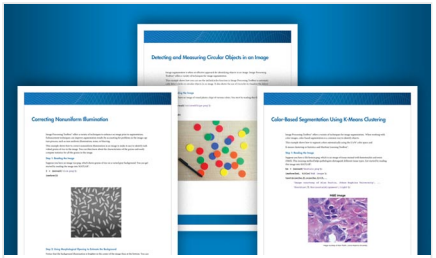

Image Processing Resource Kit

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Answer by Prashant Birajdar on 15 Sep 2015

Hi,

Color images have 3 channels (R, G, B), so:

size(your_Image, 3) = 3

For grayscale:

size(your_Image, 3) = 1

2 Comments

Vish on 12 Apr 2016

what about difference between gray and binary how to identify that???

Walter Roberson MVP on 22 Nov 2016

Binary images have multiple representations

```
if islogical(img)
    it is binary
elseif isinteger(img)
    if all(ismember(img(:), [0 intmax(class(img))]))
      bilevel integer image 0 and the maximum for the integer c
    elseif all(ismember(img(:), [0 1]))
      bilevel integer image 0 and 1
    elseif length(unique(img)) <= 2
      bilevel integer image of some other integer values
    else
      integer image that is not bilevel
    end
 else ~isnumeric(img)
    error, data is not logical or integer or numeric
 elseif all(ismember(img(:), [0 1]))
    bilevel single or double 0 and 1
 elseif length(unique(img)) <= 2
    bilevel single or double some other numeric values
 else
    single or double that is not bilevel
 end
```

Which if these you bother to implement would depend upon your definition of "binary".

The shortest of these would probably be

```
if length(unique(img)) <= 2
```

which would test for bilevel for all the data types. But remember that bilevel could be "chance"; for example, dark grey on light grey might not be *deliberately* bilevel. Even if the values are all 0 or 1 (single or double) or all 0 or intmax (integer data) you cannot be sure that it is "deliberately" binary.

One test that can be made is to use imfinfo and examine the file's bitdepth property. If the bitdepth is 1 then the image is intentionally binary. You can get an idea of which image file formats support binary images at https://www.mathworks.com/help/matlab/ref/imwrite.html#input_argument_fmt

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Answer by Batuhan Hangun on 22 Nov 2016

Edited by Batuhan Hangun on 22 Nov 2016

Answer to Vish's Question

While Grayscale Images contain values between 0-255 and Binary Images contain just two values(0 and 1) maybe you can try something like this;

```
function Result = isBin(Image)
```

```
Result = ~logical(sum(sum(Image ~= 0 & Image ~= 1)));
```

```
end
```

To test it;

```
clc, clear;
```

```
%Binary Image
B = imread('binary_image.png');
string1 = 'Image B';
```

```
%Greyscale Image
G = imread('grayscale_image.png');
string2 = 'Image G';
```

```
if(isBin(B))
    fprintf('Image %s is a binary image\n', string1);
else
    fprintf('Image %s is not a binary image\n', string1);
end
```

```
if(isBin(G))
    fprintf('Image %s is a binary image\n', string2);
else
    fprintf('Image %s is not a binary image\n', string2);
end
```

There may be better solutions. I hope expert MATLAB coders at here will improve my answer.

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