Answer 1 – The whos im command displays the information related to the image ‘im’ array. The information displayed by whos im command is

* The image size in pixels pixels along length X pixels along width
* The data type of image i.e uint8/uint16/ double etc
* Size of the image array ‘im’ in the workspace which is equal to = (total pixels in the image)\*sizeof (each pixel value). For uint8 sizeof(each pixel value) is 1 byte.

Answer 3 – The minimum value in im = 0 and maximum value is 255 as outputted by the function in assignment.

Answer 4-

Step 1 – k1=0;k2=100;

This step just assigns two variables two values

Step 2 – figure(3)

This opens up a new figure.

Step 3 – imagesc(im,[k1,k2]);

This plots a color image with color of each pixel corresponding to the grayscale intensity value in the colormap. The default colormap being ‘jet’ with blue in the lowest value and red at the highest value.

If k1!=0 or if k2!=255 then, all pixels with grayscale intensities below k1 are plotted with the color corresponding to the lowest value on the colorbar and all pixels above or equal to k2 are plotted with the color corresponding to the maximum value on the colorbar.

Step 4 – colorbar- this command shows the colorbar on the fiure, beside the plotted image using imagesc.

Step 5 – colormap gray – this changes the colorbar from the default ‘jet’ tp grayscale. So the pixels below k1 are plotted with gray intensity =0 and pixels with gray value greater than k2 are plotted as white. The values between k1 and k2 are stretched from 0 to 255.

Check This Step 6 – axis image – this plots the image in the aspect ratio as indicated by its size. That is the image is not stretched unlike the image after step 5

Answer 5-

* Using the commands min(im(:)) and max(im(:)) the minimum and maximum value for the color image ‘BirdFish.jpg’ are 0 and 255 repectively
* Minimum and Maximum values in Red , Green and Blue channels are –

1. Red –Min= 0 Max=255
2. Green- Min= 0 Max=255
3. Blue - Min= 0 Max=255

* whos command displays the following

1. Name of the variable
2. Size of the variable im – Since the image is a color image , array ‘im’ is now three dimensional with each of the three z stacks corresponding to the Red , Green and Blue Channels in a color image
3. The size of variable im in bytes
4. Class of the variable ‘im’
5. Empty field of Attributes.

Answer 5 – Question – last part imagesc does not work as expected, but using imagesc to display one channel at a time work correctly

Last part trying image(im/255) – what does this mean ??