Lab1 Assignment

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Contents

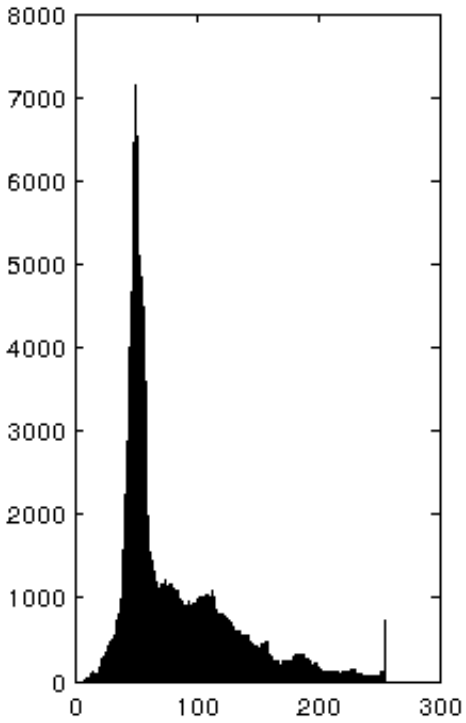
My work done for Lab1 - drawing histogram

Task description

As was written in task, our task is to create our own histogram function, that will make histogram whether it is 2-dimension image(grayscale) or 3-dimension image(RGB). But first let's make for Grayscale.

Grayscale histogram

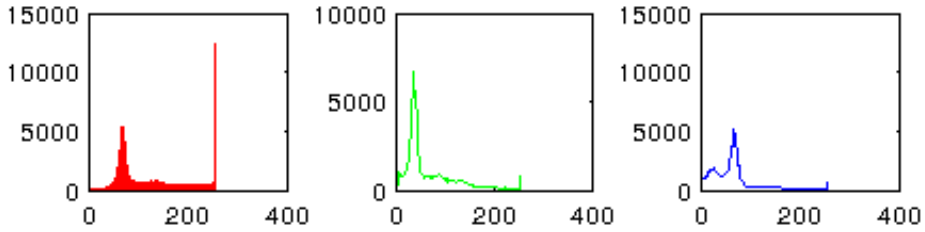
```
I = imread('graypeppers.png');
imxist(I);
```



RGB histogram

Here we use matrix with 3 columns, each column for each hue(red, green, blue)

```
I = imread('peppers.png');
imxist(I);
```



imxist code

```
function imxist(I)
    if ndims(I) == 2
                [n, m] = size(I);
                h = zeros(1, 256);
                for i = 1:n
                        for j = 1:m
                                h(I(i, j) + 1) = h(I(i, j) + 1) + 1;
                        end
                end
                subplot(1, 2, 1);
                imshow(I);
                subplot(1, 2, 2);
                bar(h);
        else
                h = zeros(256, 3);
                for k = 1:3
                        [n, m] = size(I(:,:,k));
                        for i = 1:n
                                for j = 1:m
                                        h(I(i, j, k) + 1, k) = h(I(i, j, k) + 1, k) + 1;
                                end
                        end
                end
                subplot(3, 3, [1,2,3]);
                imshow(I);
```

```
                subplot(3, 3, 4);
                bar(h(:, 1), 'r');
                subplot(3, 3, 5);
                plot(h(:, 2), 'g');
                subplot(3, 3, 6);
                stairs(h(:, 3), 'b');
    end
end
```

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