
```
clc;
clear;
close all;

% Load the input color image
input_img = imread('/MATLAB Drive/WhatsApp Image 2025-01-28 at
21.49.11_b16f1fab.jpg'); % Update with the correct image path
gray_img = rgb2gray(input_img); % Convert the image to grayscale

% Get the dimensions of the grayscale image
[height, width] = size(gray_img);

% Create a figure to display the bit planes
figure;
set(gcf, 'Position', [100, 100, 1200, 800]); % Adjust figure window size

% Loop through each bit from 1 to 8
for bit_index = 1:8
    % Extract the bit plane using the bitget function
    bit_plane = bitget(gray_img, bit_index);

    % Convert the logical bit plane to uint8 for display purposes
    bit_plane_display = uint8(bit_plane * 255);

    % Plot the bit plane in a subplot
    subplot(2, 4, bit_index); % Display bit planes from least significant
    (1st bit) to most significant (8th bit)
    imshow(bit_plane_display);
    title(['Bit Plane ', num2str(bit_index)]);
end

% Display the original grayscale image
figure;
imshow(gray_img);
title('Original Grayscale Image');
```

Bit Plane 1



Bit Plane 2



Bit Plane 3



Bit Plane 4



Bit Plane 5



Bit Plane 6



Bit Plane 7



Bit Plane 8



Original Grayscale Image



Published with MATLAB® R2024b