
```
clc; clear all; close all;

% Load and display original image
img = imread('Lin-Dan.jpg');
imshow(img);
title('Original Image');
[rows, cols] = size(img);

figure;

% Bit plane slicing
% Extract bit plane 0
for i = 1:rows
    for j = 1:cols
        plane0(i,j) = bitand(img(i,j), 1);
    end
end

% Extract bit plane 1
for i = 1:rows
    for j = 1:cols
        plane1(i,j) = bitand(img(i,j), 2);
    end
end

% Extract bit plane 2
for i = 1:rows
    for j = 1:cols
        plane2(i,j) = bitand(img(i,j), 4);
    end
end

% Extract bit plane 3
for i = 1:rows
    for j = 1:cols
        plane3(i,j) = bitand(img(i,j), 8);
    end
end

% Extract bit plane 4
for i = 1:rows
    for j = 1:cols
        plane4(i,j) = bitand(img(i,j), 16);
    end
end

% Extract bit plane 5
for i = 1:rows
    for j = 1:cols
        plane5(i,j) = bitand(img(i,j), 32);
    end
end
```

```
% Extract bit plane 6
for i = 1:rows
    for j = 1:cols
        plane6(i,j) = bitand(img(i,j), 64);
    end
end

% Extract bit plane 7
for i = 1:rows
    for j = 1:cols
        plane7(i,j) = bitand(img(i,j), 128);
    end
end

% Display all bit planes
imshow(plane0); title('0th bit plane Image');
figure; imshow(plane1); title('1st bit plane Image');
figure; imshow(plane2); title('2nd bit plane Image');
figure; imshow(plane3); title('3rd bit plane Image');
figure; imshow(plane4); title('4th bit plane Image');
figure; imshow(plane5); title('5th bit plane Image');
figure; imshow(plane6); title('6th bit plane Image');
figure; imshow(plane7); title('7th bit plane Image');

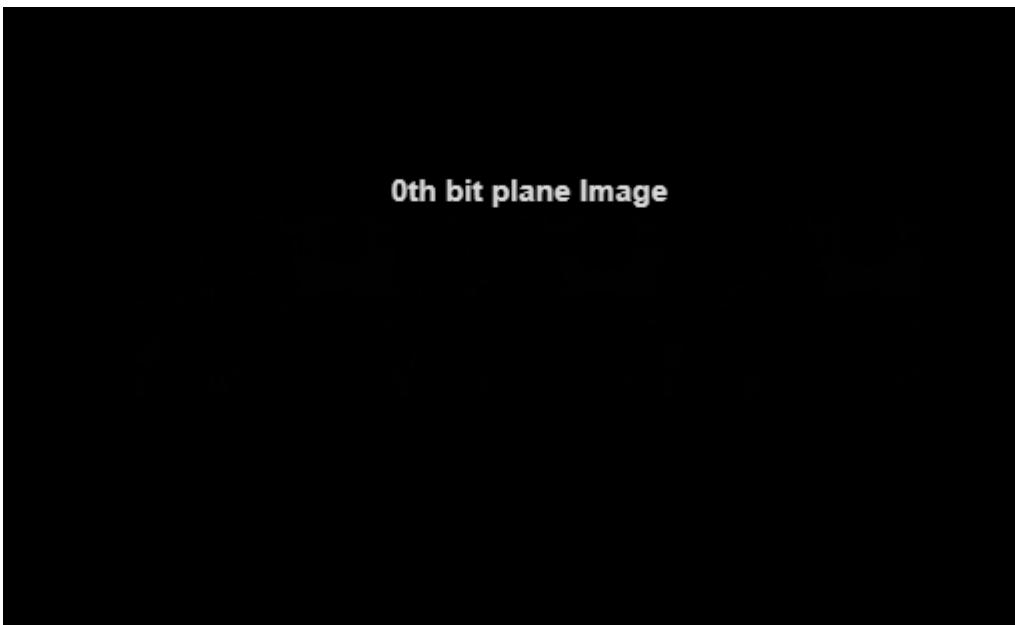
% Bit plane removal
% Remove 0th, 5th and 7th bit planes from original image
for i = 1:rows
    for j = 1:cols
        removed_p0(i,j) = bitand(img(i,j), (255 - (2^(0))));
        removed_p5(i,j) = bitand(img(i,j), (255 - (2^(5))));
        removed_p7(i,j) = bitand(img(i,j), (255 - (2^(7))));
    end
end

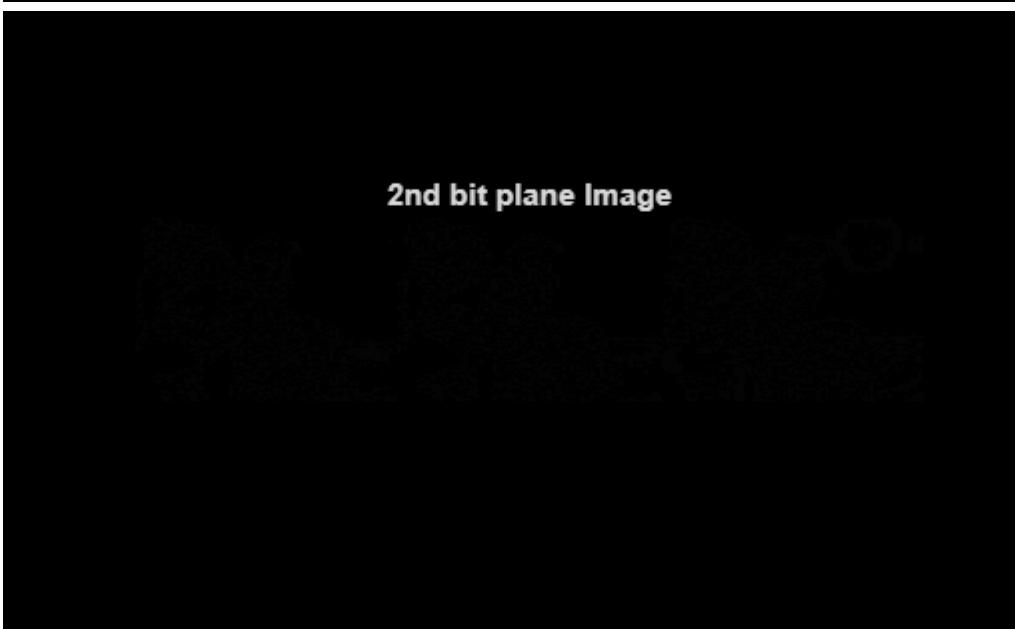
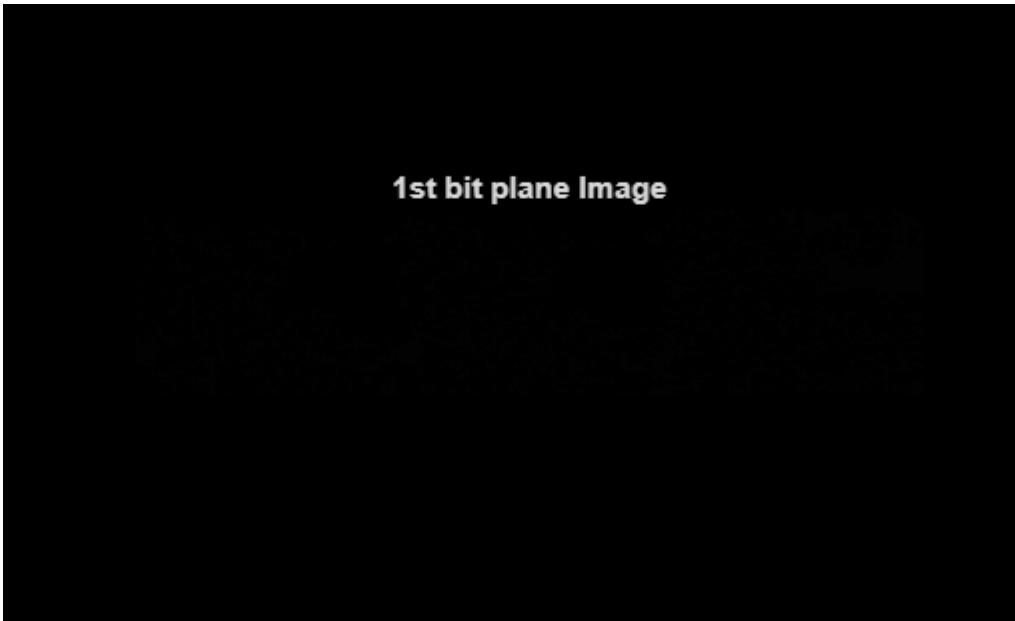
% Display images with bit planes removed
figure; imshow(removed_p0); title('0th bit plane removed Image');
figure; imshow(removed_p5); title('5th bit plane removed Image');
figure; imshow(removed_p7); title('7th bit plane removed Image');
```

Original Image

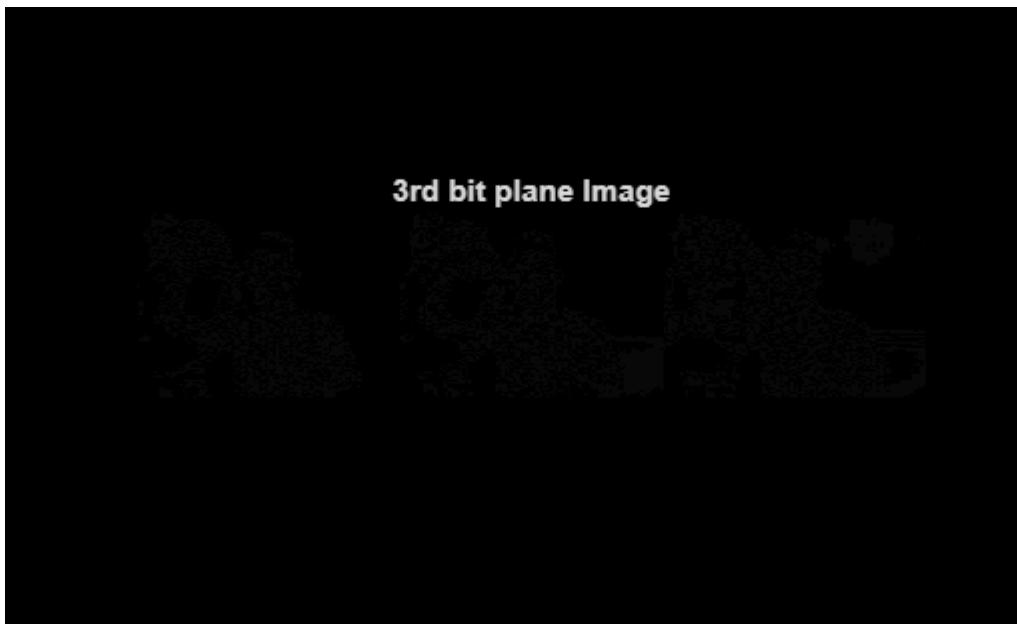


0th bit plane Image

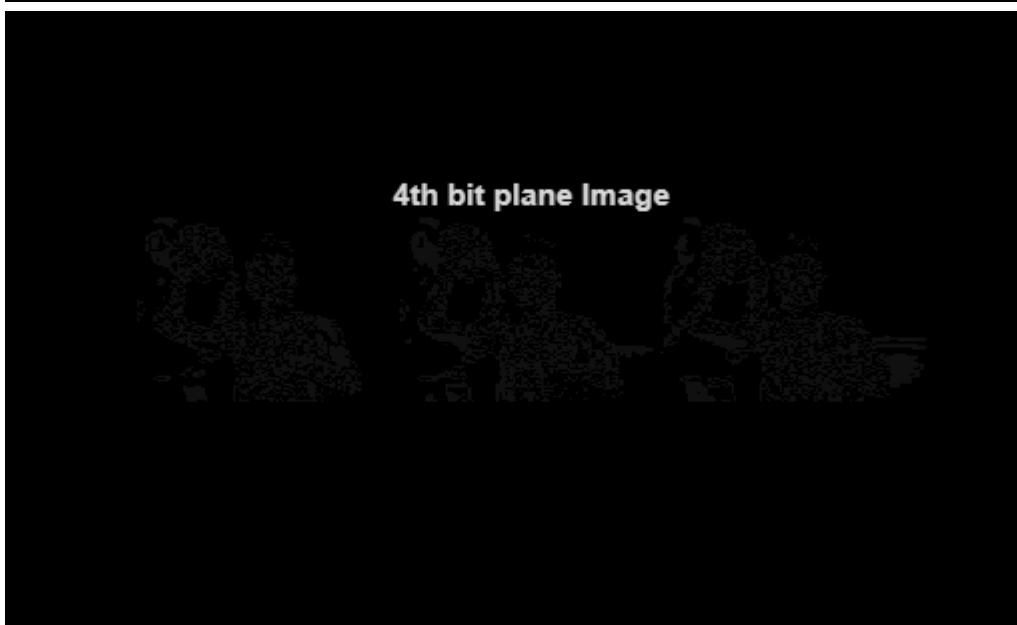




3rd bit plane Image



4th bit plane Image



5th bit plane Image



6th bit plane Image



7th bit plane Image



0th bit plane removed Image



5th bit plane removed Image



7th bit plane removed Image



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