Bit Slicing

```
clc;

clear all;

close all;



% Read image
I = imread("D:\DIP_Images\Lab2_part3.jpeg");



% Get size
[m, n] = size(I);



% ------------------------------
% Bit Plane Slicing
% ------------------------------

for ii = 1:m
    for jj = 1:n

        Bitp0(ii,jj) = bitand(I(ii,jj),1)   > 0;

        Bitp1(ii,jj) = bitand(I(ii,jj),2)   > 0;

        Bitp2(ii,jj) = bitand(I(ii,jj),4)   > 0;

        Bitp3(ii,jj) = bitand(I(ii,jj),8)   > 0;

        Bitp4(ii,jj) = bitand(I(ii,jj),16)  > 0;

        Bitp5(ii,jj) = bitand(I(ii,jj),32)  > 0;

        Bitp6(ii,jj) = bitand(I(ii,jj),64)  > 0;
```

```matlab
        Bitp7(ii,jj) = bitand(I(ii,jj),128) > 0;


    end
end




% -----------------------------
% Bit Plane Removal
% -----------------------------


for ii = 1:m
    for jj = 1:n


        bitpr0(ii,jj) = bitand(I(ii,jj),255-(2^0));
        bitpr5(ii,jj) = bitand(I(ii,jj),255-(2^5));
        bitpr7(ii,jj) = bitand(I(ii,jj),255-(2^7));


    end
end




% -----------------------------
% Display (Single Window)
% -----------------------------


figure;
```

```
subplot(3,4,1);

imshow(I);

title('Org');

subplot(3,4,2);

imshow(Bitp0);

title('B0');

subplot(3,4,3);

imshow(Bitp1);

title('B1');

subplot(3,4,4);

imshow(Bitp2);

title('B2');

subplot(3,4,5);

imshow(Bitp3);

title('B3');

subplot(3,4,6);

imshow(Bitp4);

title('B4');

subplot(3,4,7);

imshow(Bitp5);
```

```
title('B5');


subplot(3,4,8);

imshow(Bitp6);

title('B6');



subplot(3,4,9);

imshow(Bitp7);

title('B7');


subplot(3,4,10);

imshow(bitpr0);

title('R0');


subplot(3,4,11);

imshow(bitpr5);

title('R5');


subplot(3,4,12);

imshow(bitpr7);

title('R7');
```