```matlab
%date - 21/01/2026
%created by - Vedant Shahare
clc ;
clear all;
close all;
I=imread('cameraman.tif');
imshow(I);
title('Original Image');
[m,n]=size(I);
figure;
%bit plane slicing

%for 0th bit plane
for ii=1:m
    for jj=1:n
        Bitp0(ii,jj)=bitand(I(ii,jj),1);
    end
end

%for 1st bit plane
for ii=1:m
    for jj=1:n
        Bitp1(ii,jj)=bitand(I(ii,jj),2);
    end
end

%for 2nd bit plane
for ii=1:m
    for jj=1:n
        Bitp2(ii,jj)=bitand(I(ii,jj),4);
    end
end
%for 3rd bit plane
for ii=1:m
    for jj=1:n
        Bitp3(ii,jj)=bitand(I(ii,jj),8);
    end
end
%for 4th bit plane
for ii=1:m
    for jj=1:n
        Bitp4(ii,jj)=bitand(I(ii,jj),16);
    end
end
%for 5th bit plane
for ii=1:m
    for jj=1:n
        Bitp5(ii,jj)=bitand(I(ii,jj),32);
    end
end
%for 6th bit plane
for ii=1:m
```

```matlab
    for jj=1:n
        Bitp6(ii,jj)=bitand(I(ii,jj),64);
    end
end
%for 7th bit plane
for ii=1:m
    for jj=1:n
        Bitp7(ii,jj)=bitand(I(ii,jj),128);
    end
end

imshow(Bitp0);title('0th bit plane Image');
figure;imshow(Bitp1);title('1st bit plane Image');
figure;imshow(Bitp2);title('2nd bit plane Image');
figure;imshow(Bitp3);title('3rd bit plane Image');
figure;imshow(Bitp4);title('4th bit plane Image');
figure;imshow(Bitp5);title('5th bit plane Image');
figure;imshow(Bitp6);title('6th bit plane Image');
figure;imshow(Bitp7);title('7th bit plane Image');



%bit plane removal
%removing the 0th, 5th and 7th bit plane in 2 copies of the original image
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

figure;imshow(bitpr0);title('0th bit plane removed Image');
figure;imshow(bitpr5);title('5th bit plane removed Image');
figure;imshow(bitpr7);title('7th bit plane removed Image');
```
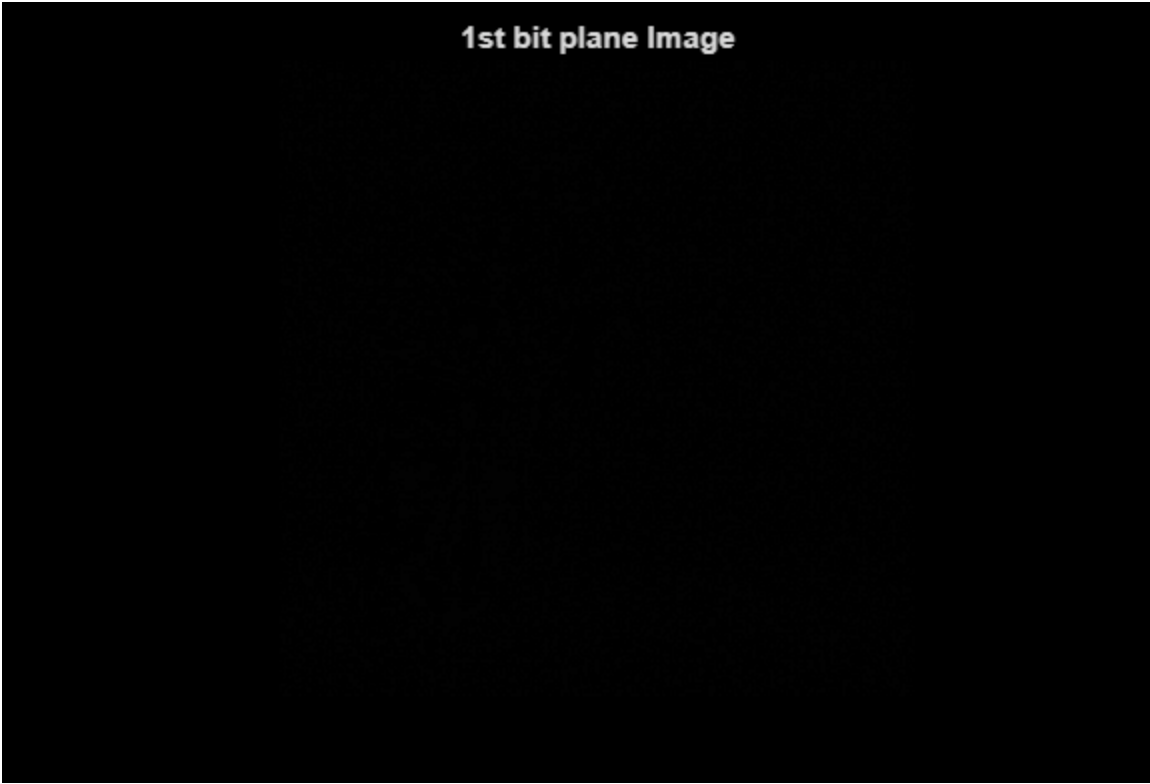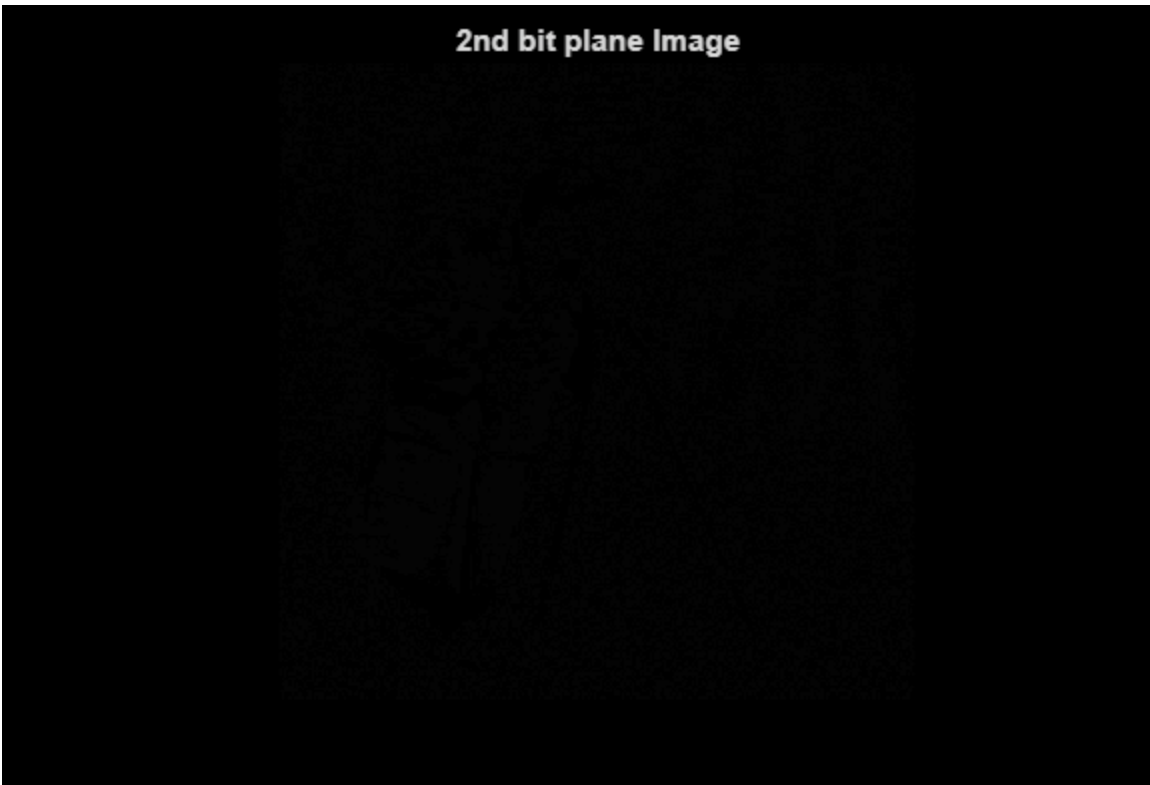
Original Image

0th bit plane Image

1st bit plane Image

2nd 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