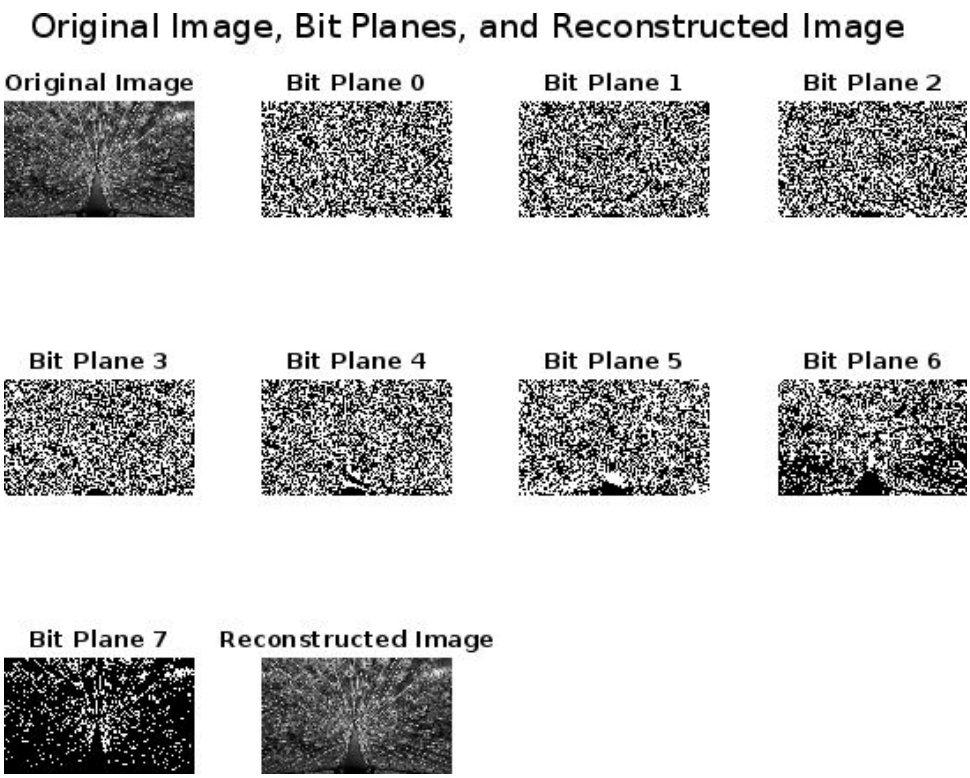
```
% DIVYA PATLE BT22ECE025

% Define the image URL (replace with the desired image URL)
url = 'https://media.istockphoto.com/id/847144522/photo/blue-peacock.jpg?
s=612x612&w=0&k=20&c=6uRUjGEcw27FLtwhjy-E8ERJP-2MVbgchfNz0qS8D5A=';

% Read the image from the internet
img = imread(url);

% Convert the image to grayscale (if it's RGB)
if size(img, 3) == 3
    img = rgb2gray(img);
end

% Get the size of the image
[rows, cols] = size(img);

% Initialize reconstruction
reconstructed_img = zeros(rows, cols,'uint8');

% Create a figure to display all results
figure;

% Display the original image
subplot(3, 4, 1);
imshow(img);
title('Original Image');

% Perform Bit Plane Slicing and Reconstruction
for k = 0:7
    % Extract the k-th bit plane
    bit_plane = bitget(img, k+1);

    % Scale to full intensity for visualization
    bit_plane_image = uint8(bit_plane * 255);

    % Add the weighted contribution to reconstruct the image
    reconstructed_img = reconstructed_img + uint8(bit_plane * 2^k);

    % Display the k-th bit plane
    subplot(3, 4, k+2);
    imshow(bit_plane_image);
    title(['Bit Plane ', num2str(k)]);
end

% Display the reconstructed image
subplot(3, 4, 10);
imshow(reconstructed_img);
title('Reconstructed Image');

% Add a super title
sgtitle('Original Image, Bit Planes, and Reconstructed Image');
```



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