```
% Bit_slicing_and_changing_the_LSB_by_Pritish


% load image
url =
'https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcRbbaK1KyoIYupLNVAI0-Hvpt
3SpnO5LMILLw&s';
img = imread(url);
% rgb to grayscale
img = rgb2gray(img);
[rows, cols] = size(img)
% empty matrix of zeros size as rows and columns
reconstructed_img = zeros(rows,cols,'uint8');
% 5*2 subplot image
figure;
sgtitle('Original Image, Bit Planes, and Reconstructed Image');
% Display the grayscale image
subplot(5, 2, 1);
imshow(img);
title('Original Image');
% extract and display each bit
for bit = 1:8
   % Extract the bit plane
   bit_plane = bitget(img, bit);

   % scale it
   bit_plane_scaled = uint8(bit_plane * 255);

   subplot(5, 2, bit + 1);
   imshow(bit_plane_scaled);
   title(['Bit Plane ', num2str(bit)]);

   % reconstruct it incrementally
   reconstructed_img = reconstructed_img + bit_plane * 2^(bit - 1);
end
% reconstructed image to uint8
reconstructed_img = uint8(reconstructed_img);
% Display it
subplot(5, 2, 10);
imshow(reconstructed_img);
title('Reconstructed Image');
```

Input Image –

Output –