

```

close all;
clear all;
% Reads in image and converts it to doubles for processing
img = imread('dctimg.jpg');

% Applies and displays compression with each different masking matrix

[SIM(1), COMP(1),B1,B21,COMPIMG1] = DCTCOMP(img,1);
[SIM(2), COMP(2),B1,B21,COMPIMG2] = DCTCOMP(img,2);
[SIM(3), COMP(3),B1,B21,COMPIMG3] = DCTCOMP(img,3);
[SIM(4), COMP(4),B1,B21,COMPIMG4] = DCTCOMP(img,4);
[SIM(5), COMP(5),B1,B21,COMPIMG5] = DCTCOMP(img,5);
[SIM(6), COMP(6),B1,B21,COMPIMG6] = DCTCOMP(img,6);
[SIM(7), COMP(7),B1,B21,COMPIMG7] = DCTCOMP(img,7);
[SIM(8), COMP(8),B1,B21,COMPIMG8] = DCTCOMP(img,8);
[SIM(9), COMP(9),B1,B21,COMPIMG9] = DCTCOMP(img,9);
[SIM(10), COMP(10),B1,B21,COMPIMG10] = DCTCOMP(img,10);
[SIM(11), COMP(11),B1,B21,COMPIMG11] = DCTCOMP(img,11);
[SIM(12), COMP(12),B1,B21,COMPIMG12] = DCTCOMP(img,12);
[SIM(13), COMP(13),B1,B21,COMPIMG13] = DCTCOMP(img,13);
[SIM(14), COMP(14),B1,B21,COMPIMG14] = DCTCOMP(img,14);
[SIM(15), COMP(15),B1,B21,COMPIMG15] = DCTCOMP(img,15);

% Display images and relevant data
figure
imshow(COMPIMG15)
title('Original Image');
xlabel([' Compressed by: ' num2str(COMP(15)) 'X' ', Similarity: '
num2str(SIM(15)) '%'])

figure
imshow(COMPIMG1)
title('Compressed Image');
xlabel([' Compressed by: ' num2str(COMP(1)) 'X' ', Similarity: '
num2str(SIM(1)) '%'])

figure
imshow(COMPIMG2)
title('Compressed Image');
xlabel([' Compressed by: ' num2str(COMP(2)) 'X' ', Similarity: '
num2str(SIM(2)) '%'])

figure
imshow(COMPIMG3)
title('Compressed Image');
xlabel([' Compressed by: ' num2str(COMP(3)) 'X' ', Similarity: '
num2str(SIM(3)) '%'])

figure
imshow(COMPIMG4)
title('Compressed Image');
xlabel([' Compressed by: ' num2str(COMP(4)) 'X' ', Similarity: '
num2str(SIM(4)) '%'])

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```
% Displays transform of image and masked version of the transform
figure
imshow(B1)
figure
imshow(B21)

% Takes similarity and compression data and plots them
SIM1 = [0,SIM];
x = [0:15];
figure
subplot(2,1,1);
plot(x,SIM1, '*')
title('Comparison of Different Masking Matricies')
axis([0 15 85 100])
xlabel('Mask Used')
xticks([0:15])
ylabel('Similarity (%)')
subplot(2,1,2);
plot(COMP,SIM)
title('Compression Vs Similarity')
axis([1 15 85 100])
xlabel('Compression Ratio')
ylabel('Similarity (%)')
```