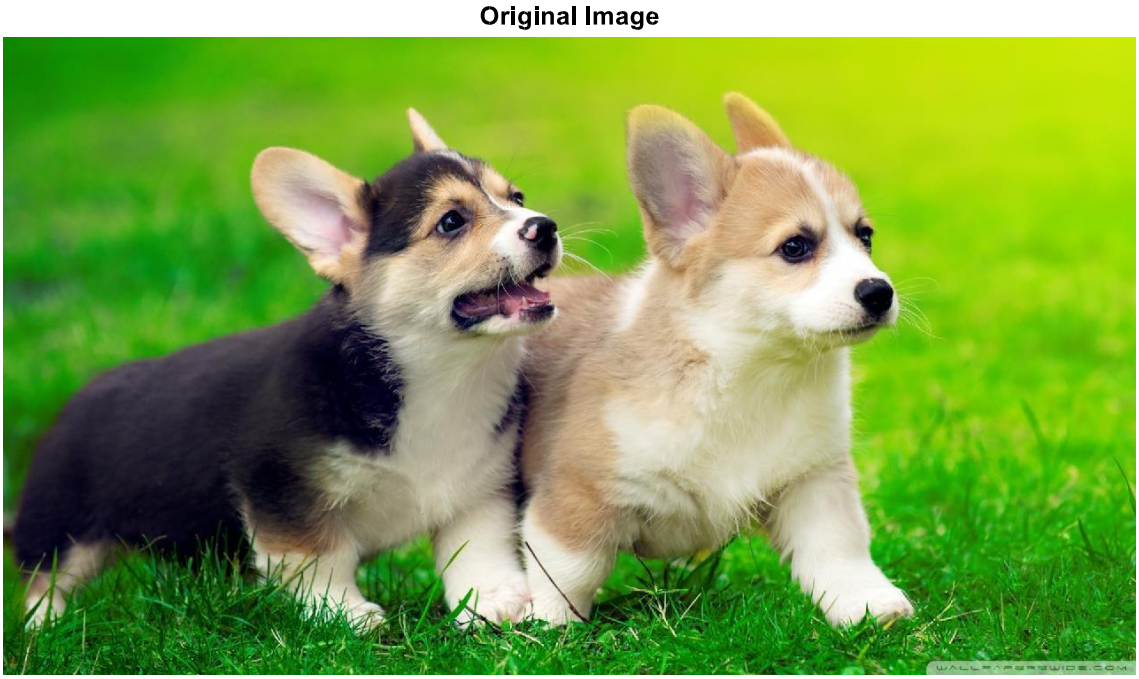
Image src-
https://tinyurl.com/yc2ryd8a
Compressed the original image with three different component sizes – 50,100 and 500.

MATLAB CODE –

```
I = imread('image.jpg','jpg');
figure; imshow(I)
title('Original Image')

R=I(:,:,1);
G=I(:,:,2);
B=I(:,:,3);

components_sizes=[50 100 500];

for i=1:length(components_sizes)

    R=double(R);
    [R_coeff,R_score,R_latent]=pca(RR);

R_compressed=uint8(R_score(:,1:components_sizes(i))*R_coeff(:,1:
components_s zes(i))' + mean(R));

    GG=double(G);
    [G_coeff,G_score,G_latent]=pca(GG);

G_compressed=uint8(G_score(:,1:components_sizes(i))*G_coeff(:,1:
components_sizes(i))' + mean(G));

    B=double(B);
    [B_coeff,B_score,B_latent]=pca(BB);

B_compressed=uint8(B_score(:,1:components_sizes(i))*B_coeff(:,1:
components_sizes(i))' + mean(B));
```

```
compressed_image=cat(3,R_compressed,G_compressed,B_compressed);
figure;
    imshow(compressed_image)
title(['Compressed Image using PCA =
',num2str(components_sizes(i))]); End
```

OUTPUT FROM COMMAND WINDOW –



Compressed Image using PCA = 50

Compressed Image using PCA = 100

Compressed Image using PCA = 500