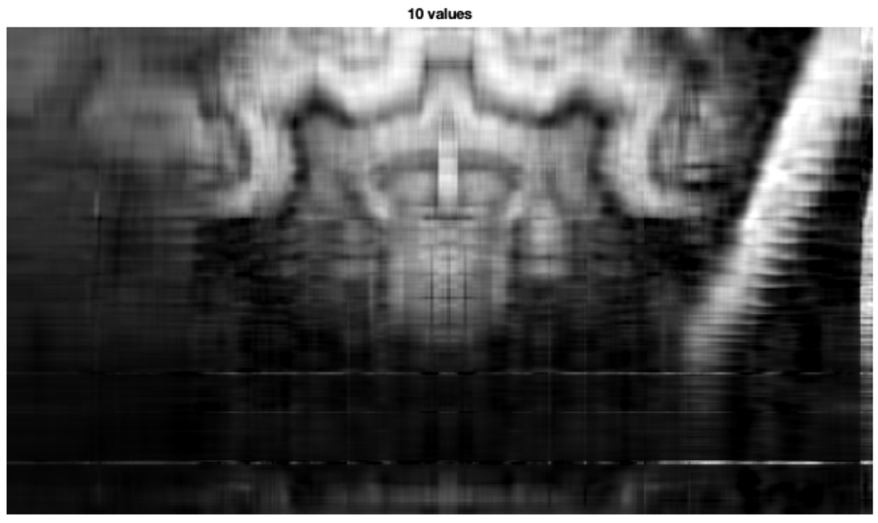
## Contents

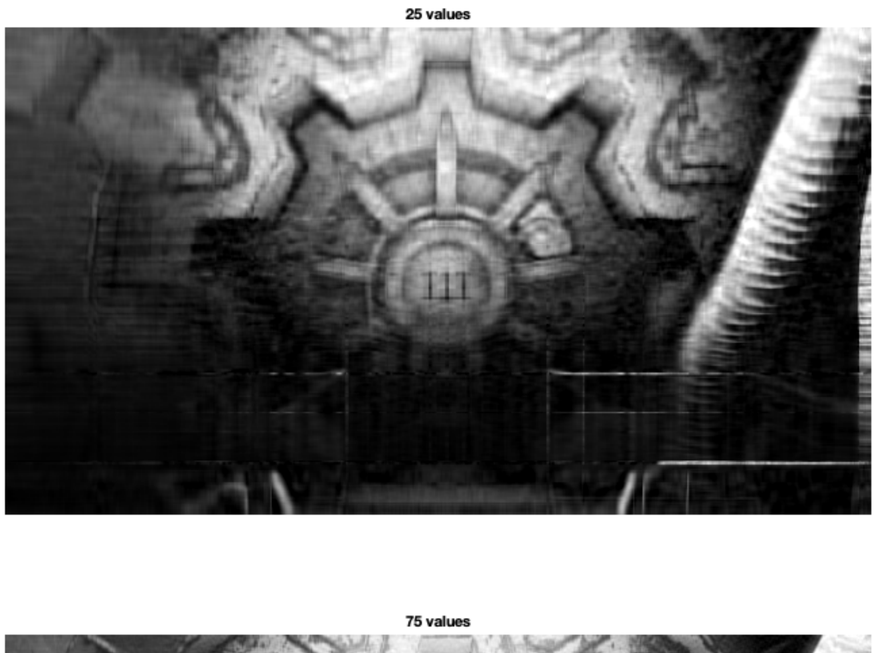


```
clc
clear all
```

## Import Image into array

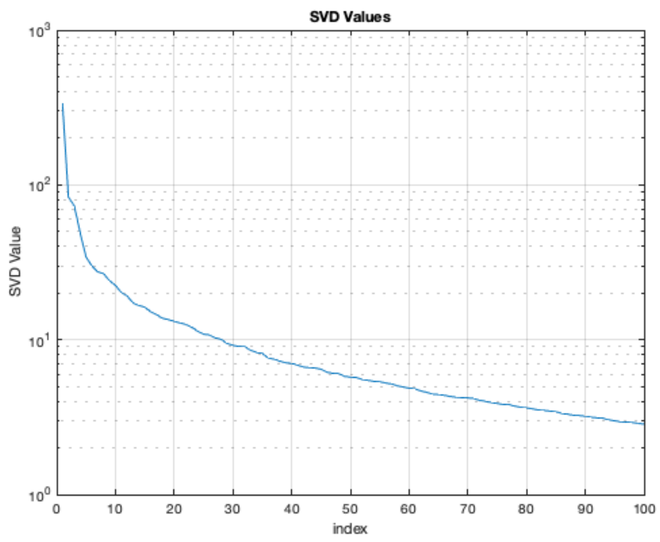
```
I = imread('Fallout.jpg');

II = im2double(I);

A = rgb2gray(II);

%A = I(:,:,1) + I(:,:,2) + I(:,:,3);

%imshow(I)
figure(1)
imshow(A)
title('Original')


%SVD of A
[U,S,V] = svd(A);


A10 = U(:, 1:10)*S(1:10, 1:10)*V(:, 1:10)';
A25 = U(:, 1:25)*S(1:25, 1:25)*V(:, 1:25)';
A50 = U(:, 1:50)*S(1:50, 1:50)*V(:, 1:50)';
A75 = U(:, 1:75)*S(1:75, 1:75)*V(:, 1:75)';
A100 = U(:, 1:100)*S(1:100, 1:100)*V(:, 1:100)';


SS = S(1:100, 1:100);


D = diag(SS);

X = 1:100;


figure(2)
imshow(A10)
title('10 values')

figure(3)
imshow(A25)
title('25 values')

figure(4)
imshow(A50)
title('50 values')

figure(5)
imshow(A75)
title('75 values')

figure(6)
imshow(A100)
title('100 values')




figure(7)
semilogy(X',D)
grid on
xlabel('index')
ylabel('SVD Value')
title('SVD Values')
```









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