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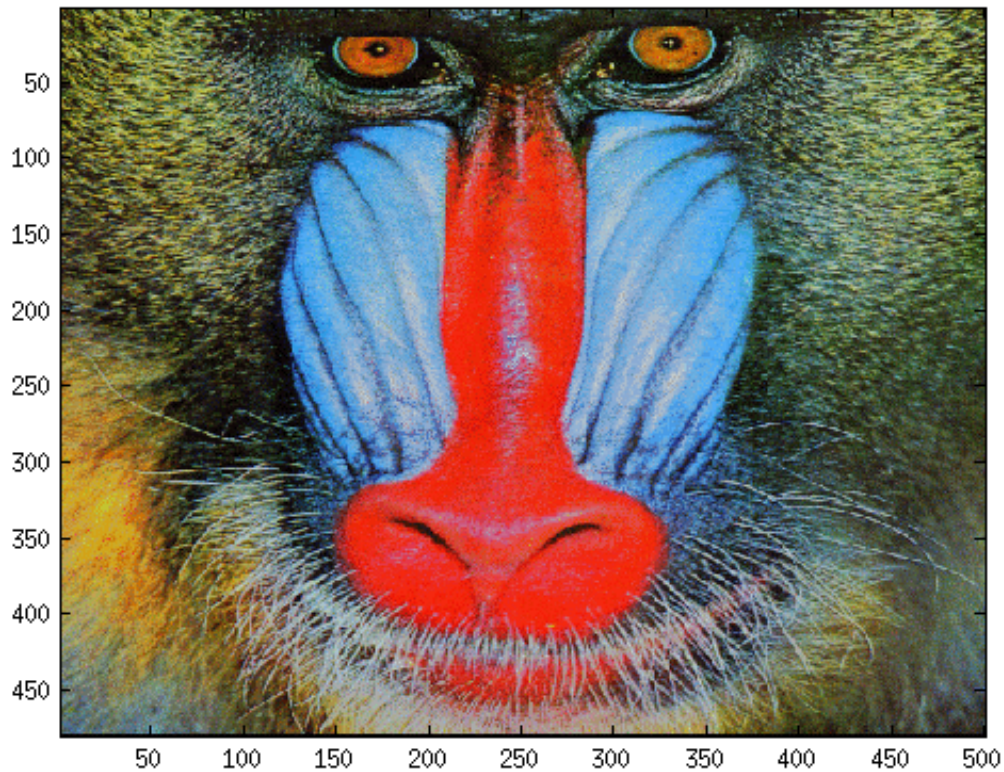
Example: The SVD

```
clear
close all; %This closes all open figures

load mandrill; %This loads an "image" in the matrix X, colors are in "map"

fprintf('The original matrix as an image\n');
figure(1)
image(X)
colormap(map)
```

The original matrix as an image



Now perform the SVD

```
[U,S,V]=svd(X);
```

Look at partial reconstructions of the matrix using the following number of basis vectors

```
NumVecs=[3,6,10,50,150,480];  
for k=1:6  
    j=NumVecs(k);  
    H=round(U(:,1:j)*S(1:j,1:j)*V(:,1:j)');  
    figure(2)  
    subplot(2,3,k)  
    image(H)  
    colormap(map)  
end
```

