Experiment 24

High Pass Filter

```
clear all;
clc;
close all;
```

Reading image (grayscale)

```
I = imread('myself.jpg');
I = rgb2gray(I);

[M,N] = size(I);
```

Finding D(u,v)

```
D = zeros(size(I));
for u = 1:M
    for v = 1:N
        D(u,v) = ((u-(M/2))^2 + (v-(N/2))^2)^(1/2);
    end
end
```

Finding H(u,v)

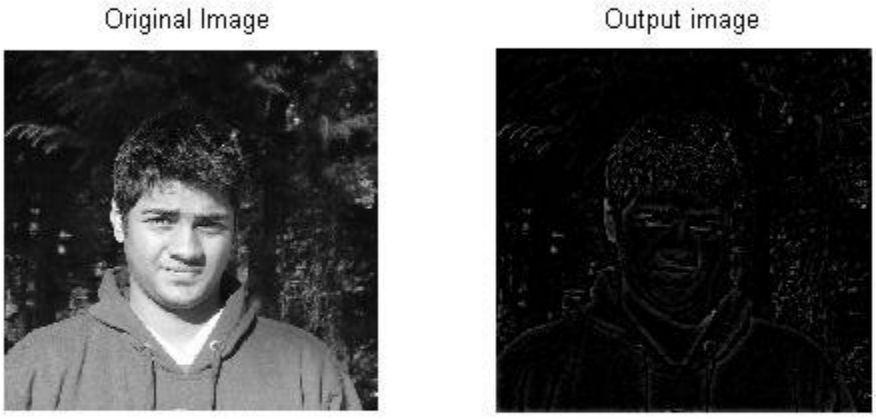
```
H = zeros(size(I));
for u = 1:M
    for v = 1:N
        H(u,v) = 1/(1 + (D(u,v)/20)^-4);
    end
end
```

Processing

```
F = fft2(I);
F = fftshift(F);
Y  = F.*H;
Y1 = ifftshift(Y);
y = ifft2(Y1);
```

Displaying the results

```
subplot(121),imshow(I),title('Original Image');
subplot(122),imshow(uint8(y)),title('Output image');
```



Conclusion

High Pass Filter Blocks low frequencies on the image, hence the image loses its definitions.

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