

```

%Contoh File Filtering di Domain Freq
entry=imread('entry2.JPG');
hz=fspecial('sobel');
PQ=paddedsz(size(entry));
HZ=fft2(double(hz), PQ(1), PQ(2));
F=fft2(double(entry),PQ(1),PQ(2));
FDF=HZ.*F;
fdf=ifft2(FDF);
fdf=fdf(1:size(entry,1),1:size(entry,2));
figure,imshow(fdf,[]);
figure,imshow(abs(fdf) > 0.2*abs(max(fdf(:))));

```

#### 1.4 Basic Steps in DFT Filtering

The following summarize the basic steps in DFT Filtering (taken directly from page 121 of Digital Image Processing Using MATLAB):

1. Obtain the padding parameters using function paddedsz:  
 $PQ = \text{paddedsz}(\text{size}(f));$
2. Obtain the Fourier transform with padding:  
 $F = \text{fft2}(f, PQ(1), PQ(2));$
3. Generate a filter function, H, of size  $PQ(1) \times PQ(2)$ ....
4. Multiply the transform by the filter:  
 $G = H .* F;$
5. Obtain the real part of the inverse FFT of G:  
 $g = \text{real}(\text{ifft2}(G));$
6. Crop the top, left rectangle to the original size:  
 $g = g(1:\text{size}(f, 1), 1:\text{size}(f, 2));$