

```

function out=Filter_Plain(I)

info_size=size(I);

height=info_size(1);

width=info_size(2);

N=zeros(height,width);

g=zeros(height,width);

imggray=rgb2gray(I);

out=zeros(height,width);


for i=1:height

    for j=1:width

        N(i,j)=255-imggray(i,j);

    end

end


for i=2:height-1

    for j=2:width-1

        sum=1*double(N(i-1,j-1))+2*double(N(i-1,j))+1*double(N(i-1,j+1));

        sum=sum+2*double(N(i,j-1))+4*double(N(i,j))+2*double(N(i,j+1));

        sum=sum+1*double(N(i+1,j-1))+2*double(N(i+1,j))+1*double(N(i+1,j+1));

        sum=sum/16;

        g(i,j)=sum;

    end

end


for i=1:height

    for j=1:width

        b=double(g(i,j));

        a=double(imggray(i,j));

```

```
temp=a+a*b/(256-b);  
  
out(i,j)=uint8(min(temp,255));  
  
end  
  
end  
  
  
out_tmp = out;  
out = zeros(size(I));  
for i=1:3  
    out(:,:,i) = out_tmp;  
end  
  
end
```

Published with MATLAB® R2017b