```
rgbimg=imread('E.jpg');         %reading image
labimg=rgb2lab(rgbimg);         %converting image from RGB to LAB
Lm=mean2(labimg(:,:,1));        %average Lm
am=mean2(labimg(:,:,2));        %average a
bm=mean2(labimg(:,:,3));        %average b
[k, s, r]=size(labimg);         %getting size of the img
R1=zeros(k,s);                  %initializing matrices R1, R2, R3, R4, R5
R2=zeros(k,s);
R3=zeros(k,s);
R4=zeros(k,s);
R5=zeros(k,s);
for(i=1:1:k)
    for(j=1:1:s)
        if(labimg(i,j,1)>=Lm)
            R1(i,j)=1;          %Applying filter R1
        end
        if(labimg(i,j,2)>=am)
            R2(i,j)=1;          %Applying filter R2
        end
        if(labimg(i,j,3)>=bm)
            R3(i,j)=1;          %Applying filter R3
        end
        if(labimg(i,j,3)>=labimg(i,j,2))
            R4(i,j)=1;          %Applying filter R4
        end
        if(labimg(i,j,1)>=Lm&&labimg(i,j,2)>=am&&labimg(i,j,3)>=bm&& ...
                labimg(i,j,2)>=labimg(i,j,3))
            R5(i,j)=1;          %Applying all previous filters together
        end
    end
end
subplot(1,6,1);                 %plotting original image and filtered images
imshow(rgbimg);
title('original')
subplot(1,6,2);
imshow(R1);
title('(I)');
subplot(1,6,3);
imshow(R2);
title('(II)');
subplot(1,6,4);
imshow(R3);
title('(III)');
subplot(1,6,5);
imshow(R4);
title('(IV)');
subplot(1,6,6);
imshow(R5);
title('(V)');
imshow (R5)
```