

```

function NewI = OilPainting(I,k)

    I_gray = rgb2gray(I);

    [m,n] = size(I_gray);

    I = im2double(rgb2lab(I));

    [L,N] = MySLIC(I,I_gray,k,10,0);

    NewI = I;

    for i = 1:N

        index = find(L == i);

        [h,w] = ind2sub([m,n],index);

        Sizei = size(index);

        pixels = [0,0,0];

        for j = 1:Sizei(1)

            pixels = pixels + [I(h(j),w(j),1), I(h(j),w(j),2), I(h(j),w(j),3)];

        end

        pixels = pixels / Sizei(1);

        for j = 1:Sizei(1)

            NewI(h(j),w(j),:) = pixels;

        end

    end

```

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