divides photo into k parts using the kmean method

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In this program, it takes the CT scan photo from the user and divides it into k parts using the k_mean method.

```
Im=get(handles.edit1,'String');
kk=str2double(get(handles.edit2,'String'));
```

It reads the photo and makes it binary:

```
I=imread(Im);
I=im2bw(I);
```

The matrix index of the CT scan photo, which is equal to 1, places the number of the row and column corresponding to it in the matrix a.

```
k=1;
for i=1:size(I,1)
    for j=1:size(I,2)
        if I(i,j)==1
            a(k,1)=i;
            a(k,2)=j;
            k=k+1;
        end
    end
end
```

It divides the matrix a, which is the row and column number of row 1 in the matrix of the CT scan image, into kk parts. After that, he draws it based on segmentation.

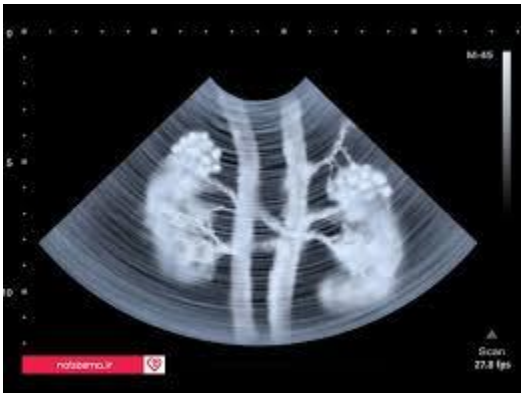
```
opts=statset('Display','final');
idx=kmeans(a,kk,'Distance','cityblock','Replicates',5,'Options',opts);

hold on
for i=1:size(idx,1)
    if idx(i,1)==1
        plot(a(i,1),a(i,2),'r.')
    elseif idx(i,1)==2
        plot(a(i,1),a(i,2),'w.')
    elseif idx(i,1)==3
        plot(a(i,1),a(i,2),'g.')
    elseif idx(i,1)==4
        plot(a(i,1),a(i,2),'y.')
    elseif idx(i,1)==5
        plot(a(i,1),a(i,2),'c.')
    elseif idx(i,1)==6
        plot(a(i,1),a(i,2),'m.')
    elseif idx(i,1)==7
```

```
        plot(a(i,1),a(i,2),'k.')
    end

end

hold off
```



The program divided the CT scan image of the upper kidney into 4 parts: