for directorynr=1:30

    sizevenster=410;

    disp(directorynr)

    tic

    directory=['anoniem' num2str(directorynr)];

    [SUCCESS,MESSAGE,MESSAGEID] = mkdir(directory,'tabletops');

    directorycontent=dir([directory '/origs/\*']);

    for beeld=1:length(directorycontent)-2%de eerste twee entries van directorycontent zijn . en ..

        if beeld < 10

            naam=['000' num2str(beeld)];

        elseif beeld >=10 && beeld<100

            naam=['00' num2str(beeld)];

        else naam=['0' num2str(beeld)];

        end

        if mod(beeld,30)==0

            disp([directorynr beeld length(directorycontent)])

        end

        readname=directorycontent(beeld+2).name;%de naam die je inleest

        writename=['plot' naam '.png'];%de naam waaronder je het resultaat wil wegschrijven

        load ([directory '/origs/' readname]);

        h=figure('visible','off');

        image=double(image);

        lb=round(sum(sum(image(1:10,1:10)))/100);

        mask=image>lb;

        if sum(mask(3,:))>0%de scancirkel moet het hele beeld beslaan, anders kan bv een tafelrand wegvallen

            image=image.\*double(mask);

            realimage=sort(image(:));

            startrealscan=find(realimage>0,1,'first');

            realimage=realimage(startrealscan:length(realimage));

            image=min(image,mean(realimage)+3.5\*std(realimage));

            verbody=sum(image,2);

            da=min(0,diff(verbody));

            da(length(da))=0;%je moet zorgen dat hij het laatste dieptepunt (van bv de onderste tafelrand ook meeneemt)

            subplot(1,3,1);

            plot(diff(verbody),'k');

            hold on;

            title(['Scan: ' num2str(directorynr) ' Image: ' num2str(beeld)])

            axis([0 size(image,1) min(diff(verbody)) max(diff(verbody))])

            minima=zeros(length(da),2);

            minima\_index=1;

            for counter=1:length(da)-2

                if da(counter)>da(counter+1) && da(counter+1)<da(counter+2)%hier worden de echte pieken geselecteerd

                    minima(minima\_index,1)=da(counter+1);

                    minima(minima\_index,2)=counter+1;

                    minima\_index=minima\_index+1;

                end

            end

            minima=minima(1:minima\_index-1,:);

            minima=-sortrows(-minima,1);

            threshold=min(minima(:,1))/5;

            deepestpoints=zeros(length(:,1),1);%deepestpoints zijn de locaties van alle minima die onder de threshold liggen

            for counter=size(minima,1):-1:1

                if minima(counter,1)<threshold

                    deepestpoints(counter)=minima(counter,2);

                    plot([minima(counter,2);minima(counter,2)],[min(diff(verbody));max(diff(verbody))],'r:')

                end

            end

            deepestpoints=sort(deepestpoints,'descend');

            deepestpoints=deepestpoints(1:find(deepestpoints==0,1,'first'));

            tabletop2=[];

            tabletop=[];%eerst alle horizontale lijnen vinden die aan criterium1 voldoen

            n\_o\_peaks=min(5,length(deepestpoints));

            while isempty(tabletop2)

                while isempty(tabletop)

                    for counter1=1:n\_o\_peaks-1

                        for counter2=counter1+1:n\_o\_peaks

                            if deepestpoints(counter1)-deepestpoints(counter2)>=27 && deepestpoints(counter1)-deepestpoints(counter2)<=33

                                tabletop=cat(1,tabletop,[deepestpoints(counter1) deepestpoints(counter2)]);

                            end

                        end

                    end

                    n\_o\_peaks=n\_o\_peaks+1;

                end

                %dan de horizontale lijnenparen selecteren die aan criterium2 voldoen

                for counter3=1:size(tabletop,1)

                    between=sum(verbody(tabletop(counter3,2)+1:tabletop(counter3,1)-1));

                    above=sum(verbody(2\*tabletop(counter3,2)-tabletop(counter3,1)+1:tabletop(counter3,2)-1));

                    if above >= 1.2\*between%het dubbele zal wel een goed criterium zijn

                        tabletop2=cat(1,tabletop2,[tabletop(counter3,1) tabletop(counter3,2)]);

                    end

                end

                tabletop=[];

            end

            tabletop3=find(sum(verbody,2)==max(sum(verbody,2)),1,'last');

            counter4=find(tabletop2(:,1)-tabletop3==min(tabletop2(:,1)-tabletop3),1,'first');

            plot([tabletop2(counter4,1);tabletop2(counter4,1)],[min(diff(verbody));max(diff(verbody))],'b--')

            plot([tabletop2(counter4,2);tabletop2(counter4,2)],[min(diff(verbody));max(diff(verbody))],'b--')

            hold off

            timage=image;

            timage(tabletop2(counter4,1)-1,:)=max(timage(:));

            timage(tabletop2(counter4,2)-1,:)=max(timage(:));

            subplot(1,2,2);

            imshow(timage,[]);

            saveas(h,[directory '/tabletops/' writename],'png');

            close(h);

        end

    end

    toc

    %keep('directorynr');%dit veronderstelt dat je de functie keep.m in testimages gedownload hebt.

end