```
i = imread("IMG-20191216-WA0102.jpg");
g = rgb2gray( i );
imshow(g);
```

```
Image = imresize(g,2);
%Original Image and its properties
figure(1)
subplot(1,2,1)
imshow(Image)
title('Original Image');

Histogram = imhist(Image);

figure(1)
subplot(1,2,2)
imhist(Image);
title('Histogram of original image');
%OTSU Method
p = Histogram/sum(Histogram,'all');
maxsigma = 0;
for T=1:length(p)-1
    P1 = sum(p(1:T)); %Total sum of normalized freq (till T)
    P2 = sum(p(T+1:length(p))); %Total sum of normalized freq (T+1 onwards)
    m1 = sum(reshape([0:T-1],[],1) .* p(1:T),'all')/P1; %Class1 mean
    m2 = sum(reshape([T:length(p)-1],[],1) .* p(T+1:length(p)),'all')/P2; %Class2 mean
    mg = sum(reshape([0:length(p)-1],[],1) .* p(1:length(p)),'all'); %Global mean
```

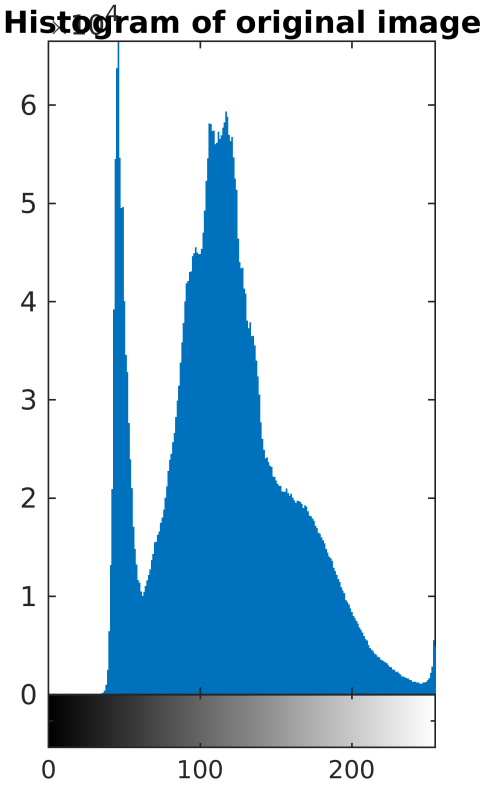
```
    sigma_B = P1*(m1-mg)^2 + P2*(m2-mg)^2; %Variance b/w class
    if sigma_B > maxsigma
        maxsigma = sigma_B;
        Threshold = T-1;
    end
end

Segmented_result = Image;
Segmented_result(Segmented_result<=Threshold) = [0];
Segmented_result(Segmented_result>Threshold) = [1];
figure(2)
imshow(Segmented_result,[])
title('Segmented Image');
disp('Threshold = ');
```

```
Threshold =
```

```
disp(Threshold);
```

```
   125
```

```
saveas(figure(1),'Original.jpeg');
```




```
saveas(figure(2),'Segmented.jpeg');
```

Segmented Image