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

```
figure
subplot(2,1,1);
imshow(i);
title('OrignalImage');

subplot(2,1,2);
imshow(g);
title('Grayscale Image');[r, column]=size(g);
```


OrignalImage

Grayscale Image

```
pix = r*column;
freq = zeros(1,256);
pf = zeros(1,256);
for c = 1 : column
 for r = 1 : r
 level = g(r, c);

 freq(level+ 1) = freq(level+1) + 1;
 pf(level+1) = freq(level+1)/pix;
 end
end
ent = 0;
for i = 1: 256
 if freq(i)~=0
 ent = ent - (pf(i)*log2(pf(i)));
```

```
  end
 end
disp(ent);
```

```
    7.3029
```

IGS Quantization Compression Algorithm:

```
temp=dec2bin(0,8);
for x=1:1:r-1
 for y=1:1:column-1
 if g(x,y)>=240
 temp2=0;
 else
 temp1=[temp(5) temp(6) temp(7) temp(8)];
 temp2=bin2dec(temp1);
 end
 temp_d = g(x+1,y+1)+temp2;
 temp = dec2bin(temp_d,8);
 igs1 = [temp(1) temp(2) temp(3) temp(4)];
 igs(x,y) = bin2dec(igs1);
 end
end
subplot(1,2,2)
imshow(uint8(igs)*16);
title('Compressed');
subplot(1,2,1)
imshow(g);
title('Original');
```

Original

Compressed