

9)Histogram Equalization Without built-in function.

```
a=imread('pout.tif');
b=size(a);
a=double(a);
hist1=zeros(1,256);
for i=1:b(1)
    for j=1:b(2);
        for k=0:255
            if a(i,j)==k
                hist1(k+1)=hist1(k+1)+1;
            end
        end
    end
end
pdf=(1/(b(1)*b(2)))*hist1;

cdf=zeros(1,256);
cdf(1)=pdf(1);
for i=2:256
    cdf(i)=pdf(i-1)+pdf(i);
end
cdf=round(256*cdf);

ep=zeros(b);
for i=1:b(1)
    for j=1:b(2)
        t=(a(i,j)+1);
        ep(i,j)=cdf(t);
    end
end

hist2=zeros(1,256);
for i=1:b(1)
    for j=1:b(2)
        for k=0:255
            if ep(i,j)==k
                hist2(k+1)=hist2(k+1)+1;
            end
        end
    end
end
```

