TITLE: Discrete Cosine Transform.

clc;

clear all;

close all;

im=imread('pout.tif');

subplot(1,2,1);

imshow(im);

s=size(im);

M=s(1);

N=s(2);

ap=[];

aq=[];

ap(1)=sqrt(1/M);

aq(1)=sqrt(1/N);

for p=2:M

ap(p)=sqrt(2/M);

end

for q=2:N

aq(q)=sqrt(2/N);

end

b=[];

for p=1:M

for m=1:M

b1(p,m)=cos(((2\*(m-1)+1)\*pi\*(p-1))/(2\*M))\*ap(p);

end

end

for q=1:N

for n=1:N

b2(q,n)=cos(((2\*(n-1)+1)\*pi\*(q-1))/(2\*N))\*aq(q);

end

end

im=double(im);

b=b1'\*im\*b2;

subplot(1,2,2);

imshow(b);

