I=imread('cameraman.tif');

[M,N]=size(I);

S = [2.3 0 0;0 2 0; 0 0 1];

[u,v]=meshgrid(1:M,1:N);

p=(u).\*S(1);

q=(v).\*S(5);

[p1,q1]=meshgrid(-50:S(1)\*M+50,-50:S(5)\*N+50);

Vq = interp2(p,q,double(I),p1,q1);

imshow(Vq,[])