Draw triangle based on input coordinates

Draw x and y axes at center of max height and width

Input triangle coordinates (x1,y1), (x2,y2) and (x3,y3)

Display triangle drawn using new coordinates

Calculate new coordinates:

xsh1 = x1 + shx \* (centerY - y1);

ysh1 = y1 + shy \* (x1 - centerX);

xsh2 = x2 + shx \* (centerY - y2);

ysh2 = y2 + shy \* (x2 - centerX);

xsh3 = x3 + shx \* (centerY - y3);

ysh3 = y3 + shy \* (x3 - centerX);

Calculate new coordinates:

xs1=x1\*sx+x1 \* (1 - sx);

xs2=x2\*sx+x1 \* (1 - sx);

xs3=x3\*sx+x1 \* (1 - sx);

ys1=y1\*sy+y1 \* (1 - sy);

ys2=y2\*sy+y1 \* (1 - sy);

ys3=y3\*sy+y1 \* (1 - sy);

Calculate new coordinates:

xr1 = centerX + (x1-centerX) \* cos(thetaRadian) - (y1-centerY) \* sin(thetaRadian);

xr2 = centerX + (x2-centerX) \* cos(thetaRadian) - (y2-centerY) \* sin(thetaRadian);

xr3 = centerX + (x3-centerX) \* cos(thetaRadian) - (y3-centerY) \* sin(thetaRadian);

yr1 = centerY + (x1-centerX) \* sin(thetaRadian) + (y1-centerY) \* cos(thetaRadian);

yr2 = centerY + (x2-centerX) \* sin(thetaRadian) + (y2-centerY) \* cos(thetaRadian);

yr3 = centerY + (x3-centerX) \* sin(thetaRadian) + (y3-centerY) \* cos(thetaRadian);

Calculate new coordinates:

x1 = x1+tx,

x2 = x2+tx,

x3 = x3+tx,

y1 = y1-ty,

y2 = y2-ty,

y3 = y3-ty

Input shearing parameters Shx and Shy

Input scaling factors Sx and Sy

Input rotation angle

Input translation vector tx,ty