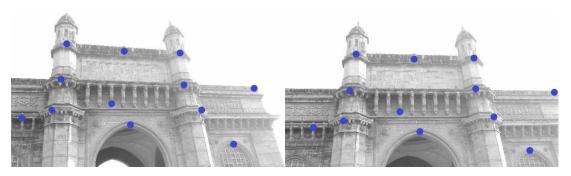**Question 5:**

(a)

Selected the following physically corresponding points from the images

goi1.jpg   **goi2.jpg**

(b)

Determined affine transformation which converts 'goi1' into 'goi2':

$$
\begin{array}{ccc}
1.0544 & 0.0138 & 23.5736 \\
-0.0167 & 1.0193 & 18.5455 \\
0.0000 & -0.0000 & 1.0000
\end{array}
$$

(c)

Warping 'goi1' using affine transformation matrix and interpolating it using nearest neighbor interpolation:

goi1   **goi2**   **transformed goi1**

(d)

Using bilinear interpolation:

goi1   **goi2**   **transformed goi1**

(e)

If all points chosen were collinear, the transformation would take place based on a single line in the image. The salient features of the 2D image won't be properly captured and affine motions like shearing and scaling might be confused or not recognized.