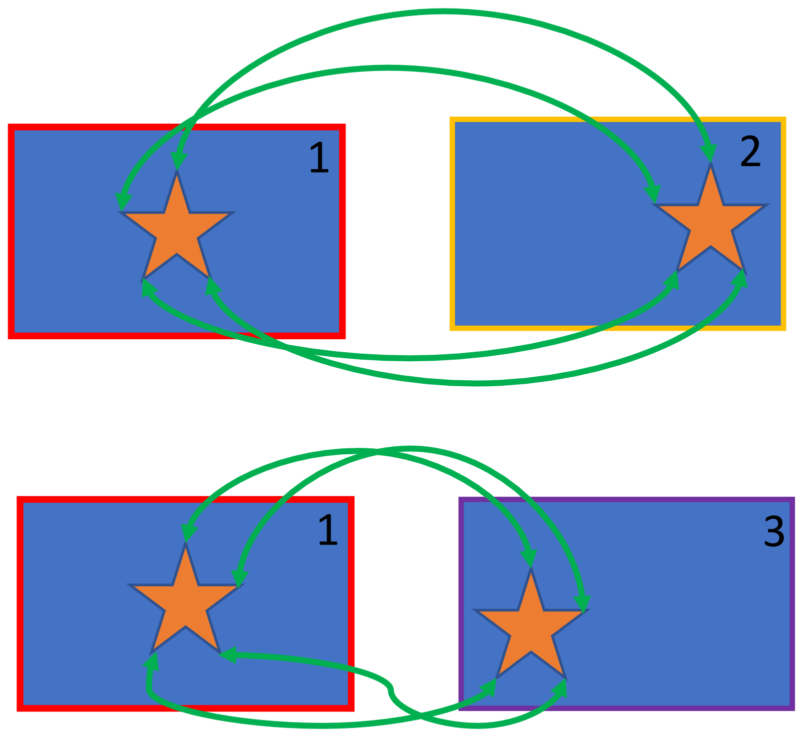
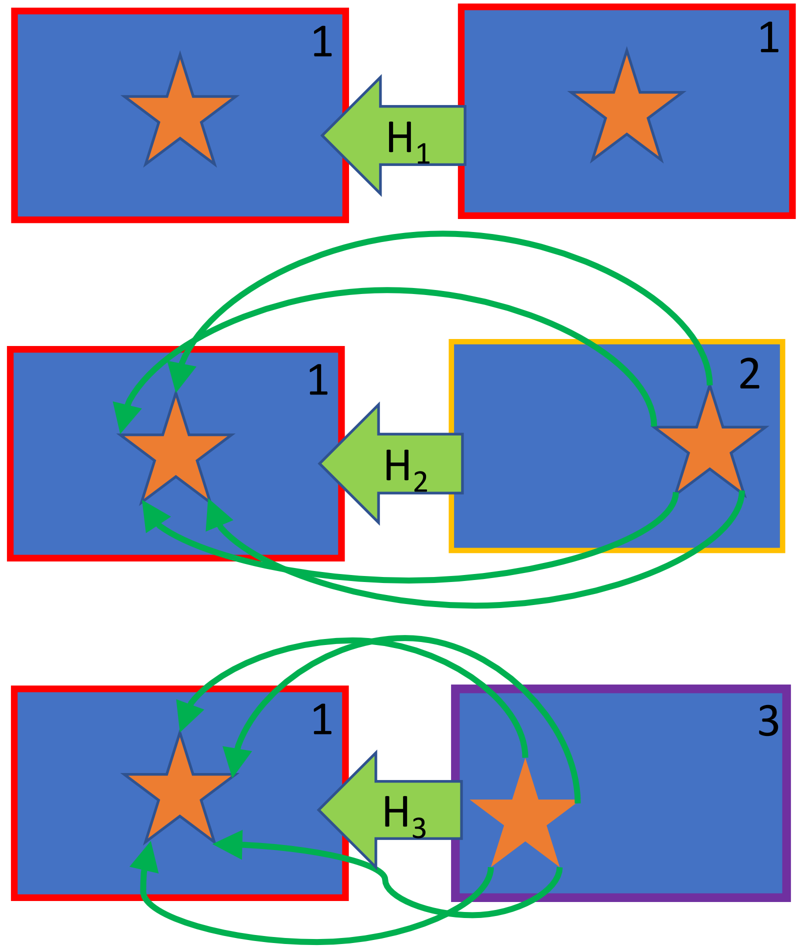
Input source images


Establish correspondences (4 pairs of keypoints) between the central image and each of the other source images



Estimate homography that maps corresponding points from peripheral image to central image using least-squares.

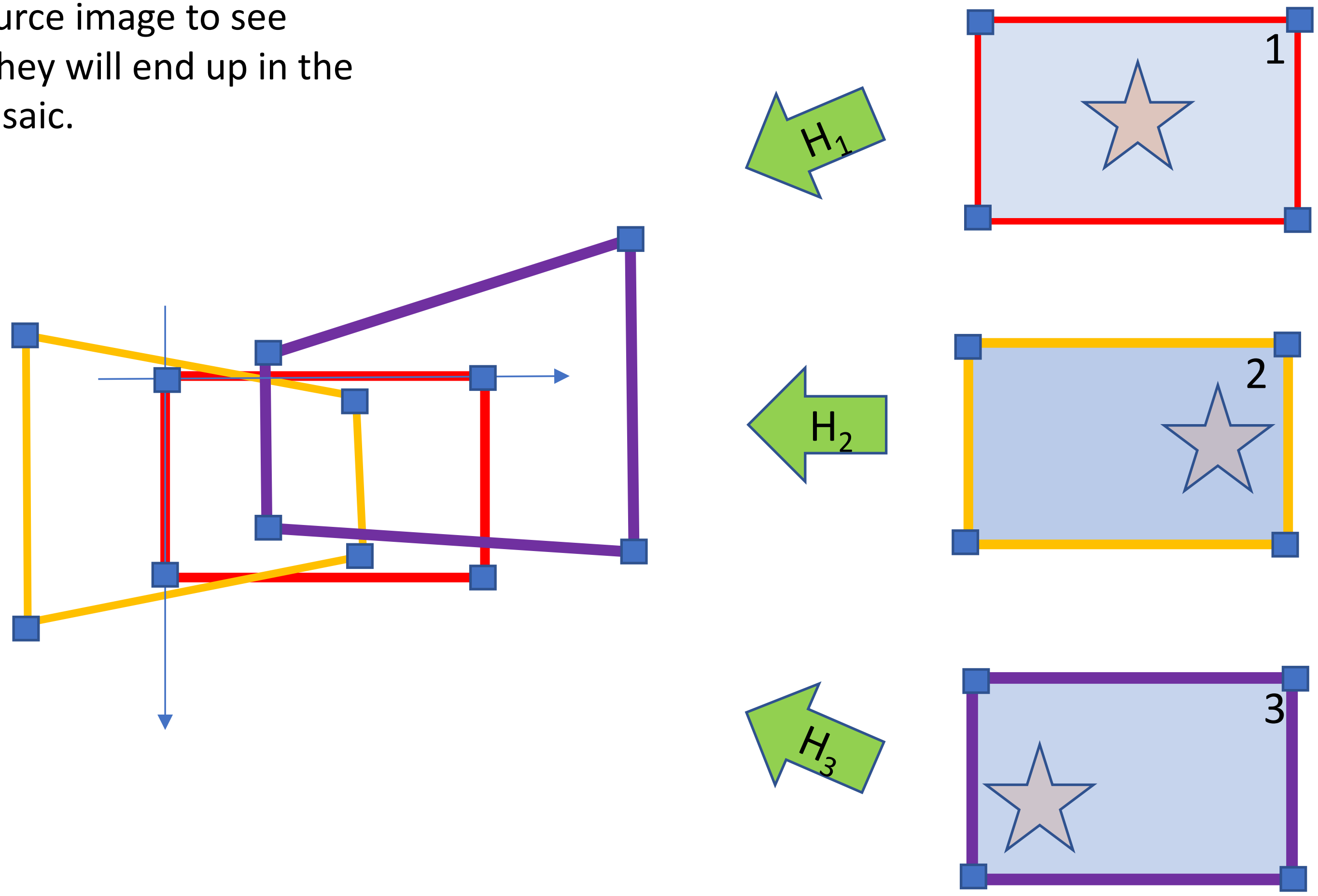



$$H_1=\begin{bmatrix}1 & 0 & 0\\ 0 & 1 & 0\\ 0 & 0 & 1\end{bmatrix}$$

$$H_2=\begin{bmatrix}? & ? & ?\\ ? & ? & ?\\ ? & ? & ?\end{bmatrix}$$

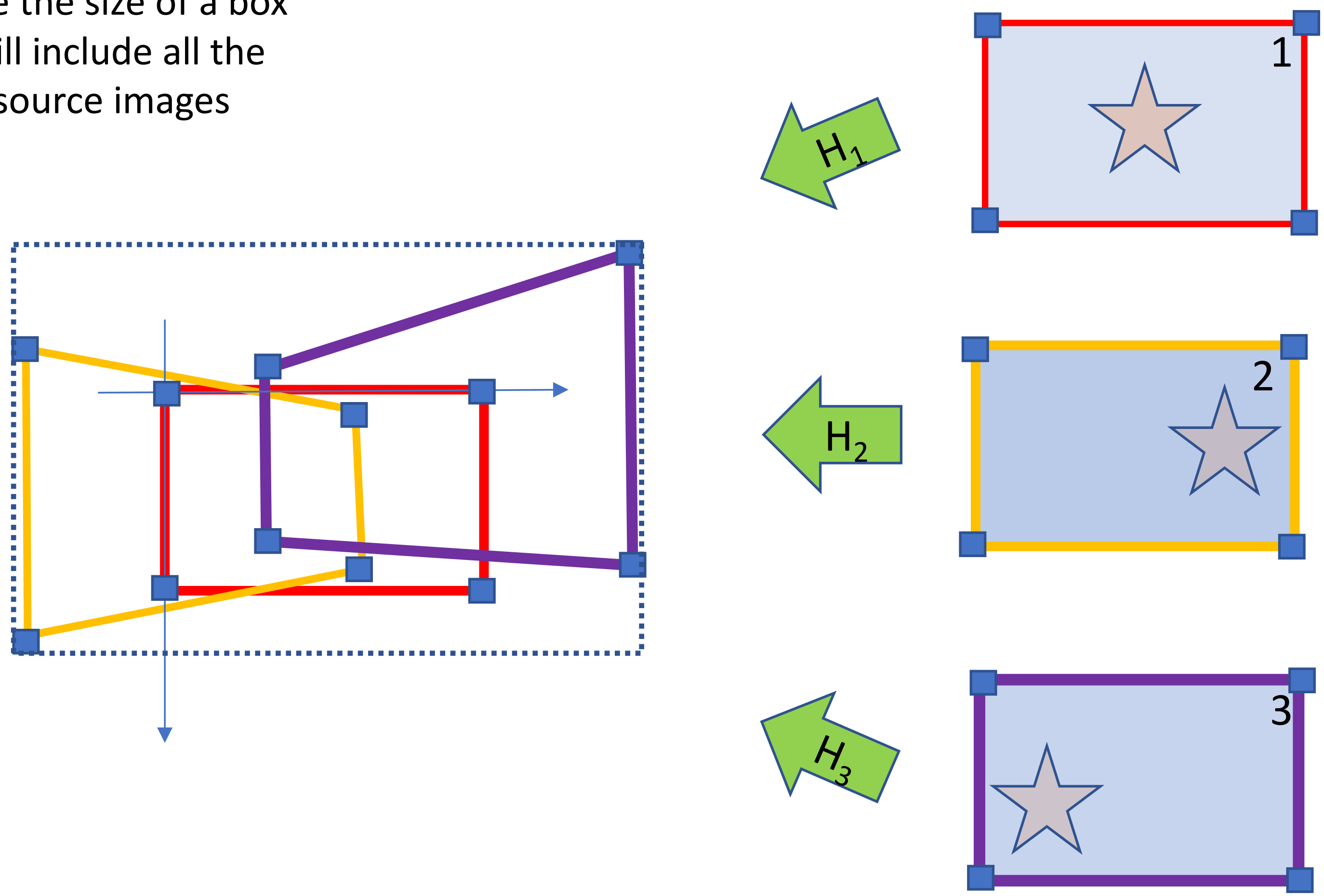
$$H_3=\begin{bmatrix}? & ? & ?\\ ? & ? & ?\\ ? & ? & ?\end{bmatrix}$$

Apply the homography to the coordinates of the corners of each source image to see where they will end up in the final mosaic.

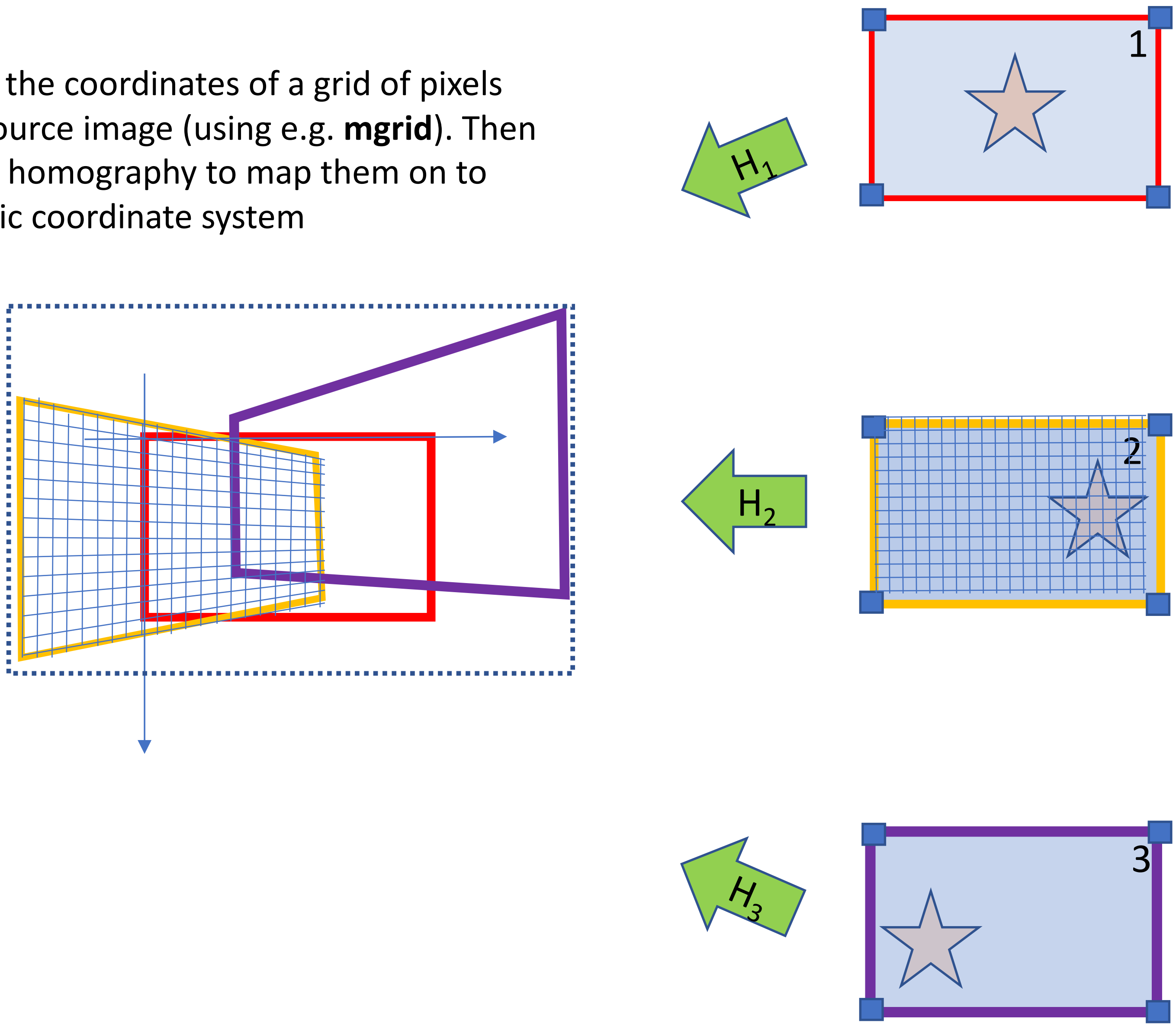



Note that the homography for our central image is the identity matrix so the upper left corner of it will remain at the origin of our coordinate system

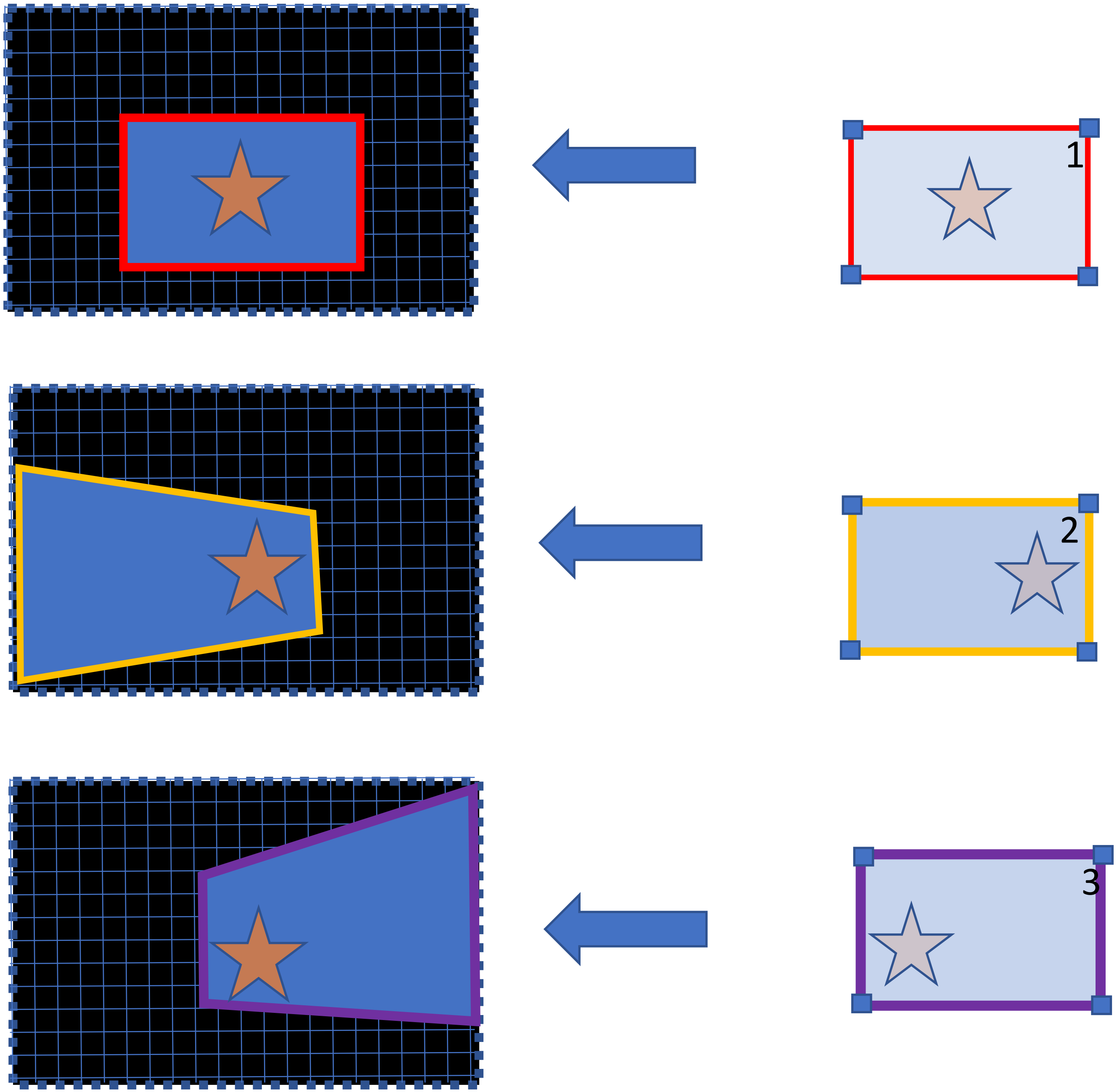
Compute the size of a box which will include all the warped source images



Compute the coordinates of a grid of pixels in each source image (using e.g. **mgrid**). Then apply the homography to map them on to the mosaic coordinate system



Interpolate the pixel colors onto the mosaic pixel coordinates (using **griddata**)



Blend together the warped images using alpha blending