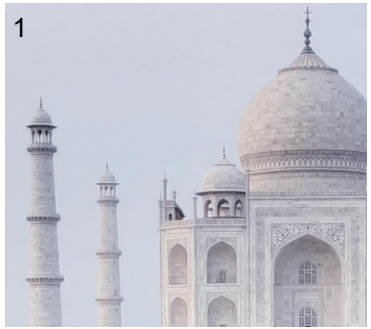
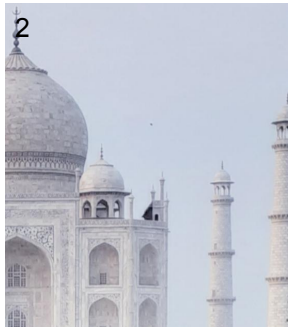
Fully automated panoramic image stitching

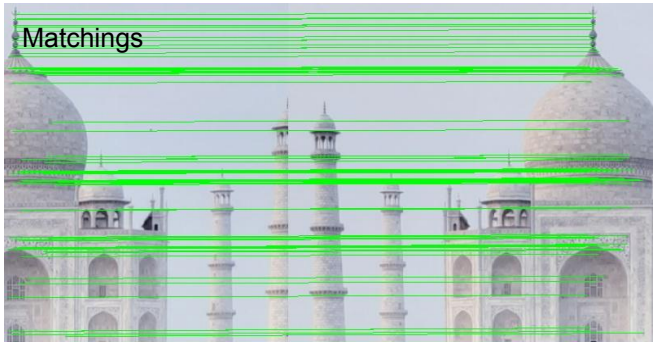
Objectives completed

We have been able to accomplish the following tasks:

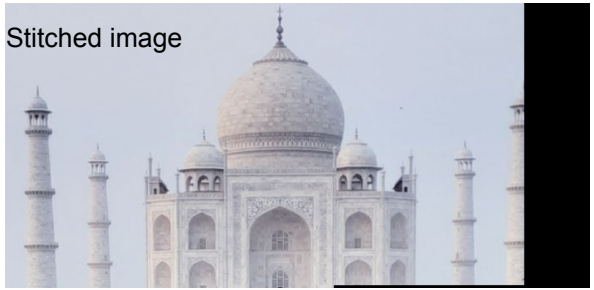
1. Feature and Image matching







2. Image Stitching



3. Bundle adjustments - Firstly,the euclidean distances for the corresponding matching points for the two images were calculated.This was then followed by calculating the mean and standard deviation of the appended distances.After applying the condition of optimality,optimal distances as well as removed distances were obtained.All the sizes of the key points for the images and distances were reported through the console.The new matching obtained is in the next slide.

4. Straightening - This was applied on the final image obtained after stitching.All the coordinate points which have non-zero pixel value were obtained and stored in an array.A brute force method was applied on the new coordinate points to the obtain the straightened image.

Results

The adjustment performed gave the following result on our image-

Removed distances
=[145.773,150.230,142.619,145.040,152.077,152.078,148.424,143.151,4.105,4.106,155.236,135.518,140.128]

Original key points size=125 , Key points size after adjustment = 112

The straightened image that was obtained is -