HW4 Part2

Example outputs

For drink machine image 1 and drink machine image 2 (should match):

Text

Description automatically generated

Symmetric matching yields more matching keypoints in the beginning, but then has a smaller ratio of captured inliers than ratio test points

For drink-machine image1 and drink-machine image3 – Shouldn’t match as well since two different 1/3rds of a machine are displayed in the images.

Text

Description automatically generated

Ratio test does a good job of filtering out a greater amount of outliers and lowering the percent of possible keypoints that make the scene similar. Symmetric matching however yields more matching keypoints and thinks that 56 percent of the matches are valid, even though the 2 images shouldn’t have as many similarities.

For frear park image1 and tree mrc image 3 – shouldn’t match

Text

Description automatically generated

Ratio test yields much less matches, whereas symmetric test yields more than half of the keypoints as matches

For drink-machine image2 and office image 1 – shouldn’t match

Text

Description automatically generated

Ratio test is good at detecting less points whereas Symmetric detects too many “valid” matches

For vcc entrance image1 and vcc entrance image3 – should match

Text

Description automatically generated

Here again Symmetric matching takes way too many matches as valid even though image 3 is mostly a small section of the right side of image 1

Based on the above results, ratio test is better because in the cases of non image matching, ratio detects less matches than Symmetric. Symmetric test seems to bit more unstable since even in the situations of image matches where the second image only contains a small subset of the first image (vcc entrance 1 and vcc entrance 3), symmetric test seems to capture too many points and might not be good when the camera is rotated even more to match less features image 1 less.