Lab 6: 22/04/2024

**Task1: Task1: Execution command: ./Task1 Query_Image Train_Image**

To extract features and descriptors I utilized ORB, SIFT and SURF algorithms. After extracing the features and descriptors from the pair of images, I utilized two matcher with three strategies.

FlannMatcher to find knn =2 for each of matches. Then by applying Lowe's ratio test I extracted the good matches.
Brute Force Matcher, using NORM_HAMMING for ORB detector and NORM_L2 for SIFT and SURF to find knn =2 for each of matches. Then by applying Lowe's ratio test I extracted the good matches.
The last strategy is, again Brute Force Matcher, but by extracting the matches point from and find Homography matrix to extract good matches.

Here we can see the output for bodleian_000106.jpg and  img4.png.

```
rastin@Rastin-PC:~/CLionProjects/Lab_6_24$ ./Task1 Images/bodleian_000106.jpg Images/img4.png
Using ORB - Brute Force Matching KNN
Good matches: 3
The two images have different content.

Using ORB - Brute Force Matching Matcher
Good matches: 49
The two images have different content.

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Using SIFT - Flann Matching
Good matches: 12
The two images have different content.

Using SIFT - Brute Force Matching KNN
Good matches: 9
The two images have different content.

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Using SURF - Flann Matching
Good matches: 40
The two images have different content.

Using SURF - Brute Force Matching KNN
Good matches: 30
The two images have different content.

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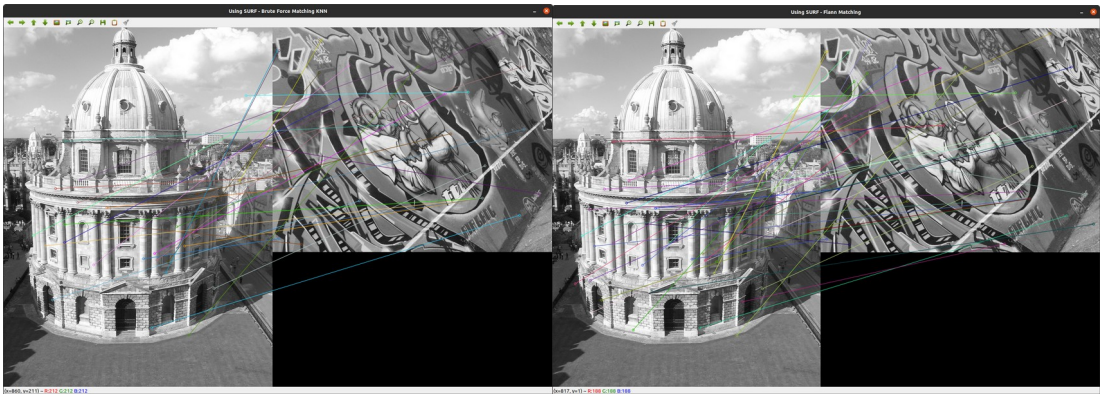
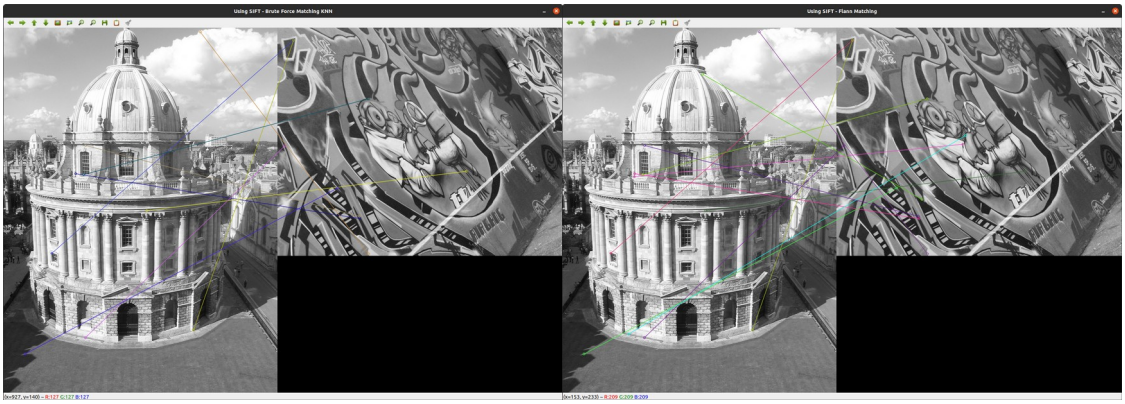
SURF:




SIFT:




ORB: