Exercise 7: Feature descriptors

In this exercise, you will use OpenCv to compute SIFT features, match sift features between a reference image and an image of the scene, and use the matched features to map object points in the reference image to object point in the scene.

Since the SIFT feature descriptor is patented, it is only included in OpenCV if you compile OpenCV with the “xfeatures2d” module. Since the exercise is about how feature descriptors in general are used, you can do the exercise using “AKAZE” features instead of SIFT features. This allows you to do the exercise without having to compile OpenCV yourself.

- OpenCV has excellent tutorials on how to compute and match SIFT features, and how these can be used to compute a homography between a reference image and a scene. Follow the four tutorials below. Link: https://docs.opencv.org/4.x/d9/d97/tutorial_table_of_content_features2d.html
    - Feature Detection
    - Feature Description
    - Feature Matching with FLANN
    - Features2D + Homography to find a known object


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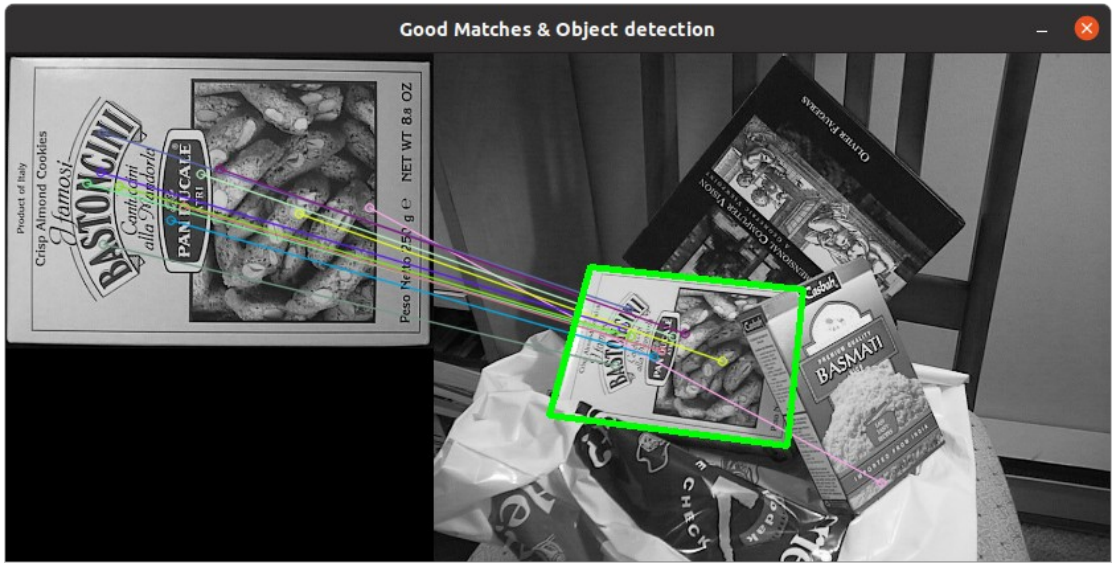
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Difference to the tutorial

- Use AKAZE instead of SIFT
  - This means you do not have to include "opencv2/xfeatures2d.hpp"
- Use DescriptorMatcher::BRUTEFORCE instead of DescriptorMatcher::FLANNBASED