Assignment 1: K-Means Visual Words

→ Step 1: extract SIFT features from VGG's image dataset

- ▶ SIFT: http://www.cs.ubc.ca/~lowe/keypoints/

- ▶ VGG image dataset:
  http://www.robots.ox.ac.uk/~vgg/data/data-aff.html

→ Step 2: K-Means clustering on the extracted data

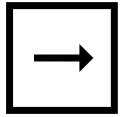- ▶ wiki: http://en.wikipedia.org/wiki/K-means_clustering

→ Step 3: Nearest neighbor search to get the visual words representation

- ▶ Naive brute-force search

→ Step 4: Calculate the inverted file index

- ▶ Inverted file table

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□→ Step 5: Evaluation

- ▶ Select 10 example query image

- ▶ Retrieve the similar images using L1/L2 norm

- ▶ Calculate Precision/Recall

● Code + Report

★ Due: Oct. 17th, 2020