Introduction:

This toy demo shows the complete process of Post Tuned Hashing (we use ITQ+Post-Tuning as the example, refer to our paper). The used data are 4,000 2-d points from 4 different Gaussian distributions. The process consists of:

Step (i) hashing: use the noted ITQ [6] to hash data to 2-bits codes.

Step (ii) post-tuning skeleton points: randomly sample 100 points as the skeleton points. Post-tuning the ITQ codes of skeleton points by using the proposed post-tuning algorithm (refer to section 3.1,3.2, objective function Eq.(7)).

Step (iii) post-tuning out-of-sample points: post-tuning the ITQ codes of the rest data (3,900 points) by using the proposed out-of-sample extension (refer to section 3.3, objective function Eq.(12)).

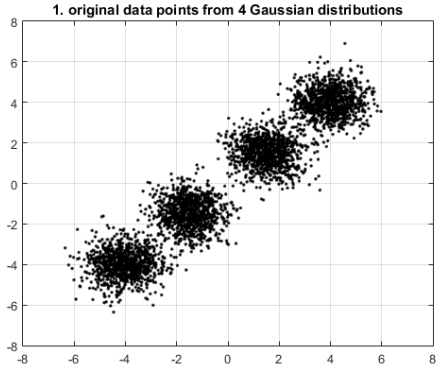
How to use:

Run demo.m to see the toy illustration. We suggest to run it with Matlab 2015 on Windows .

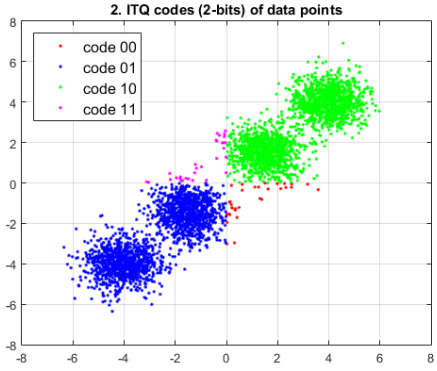
Note: if you want to evaluate PTH on other datasets, you need to change the value of `epsion` in the `PostTuning_SkeletonPoints.m` and `PostTuning_OutofSample.m`.

Demo results:

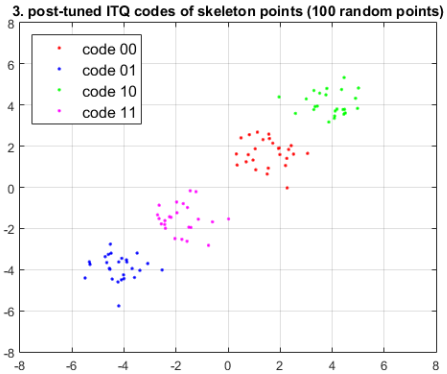
The demo will show how PTH maps a 4,000 points dataset to the final binary codes according to step **(i), (ii) and (iii)**. It will generate 4 Figs as follows: Fig (1) shows the data, Fig (2), (3) and (4) show the results of step **(i), (ii) and (iii)**, respectively. The color of a point denotes its code.



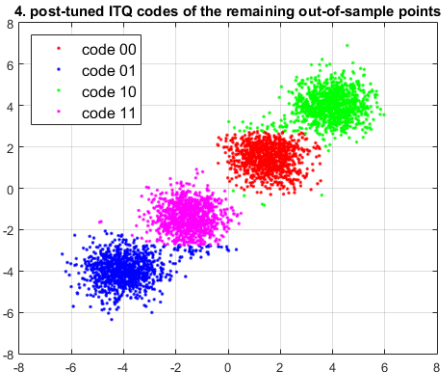
(1)



(2)



(3)



(4)