

HW23 P81.

Agree: it is possible for K-means to oscillate between clusterings. Practically, however, this tends not to happen.

The K-means algorithm is to minimize:

$$J(c, \mu) = \sum_{i=1}^n \|a^i - \mu_i\|^2$$

Step 2 of K-means minimizes  $J @ c, \mu \text{ const}$  and step 3 minimizes  $J @ \mu, \text{ with const. } c$ .