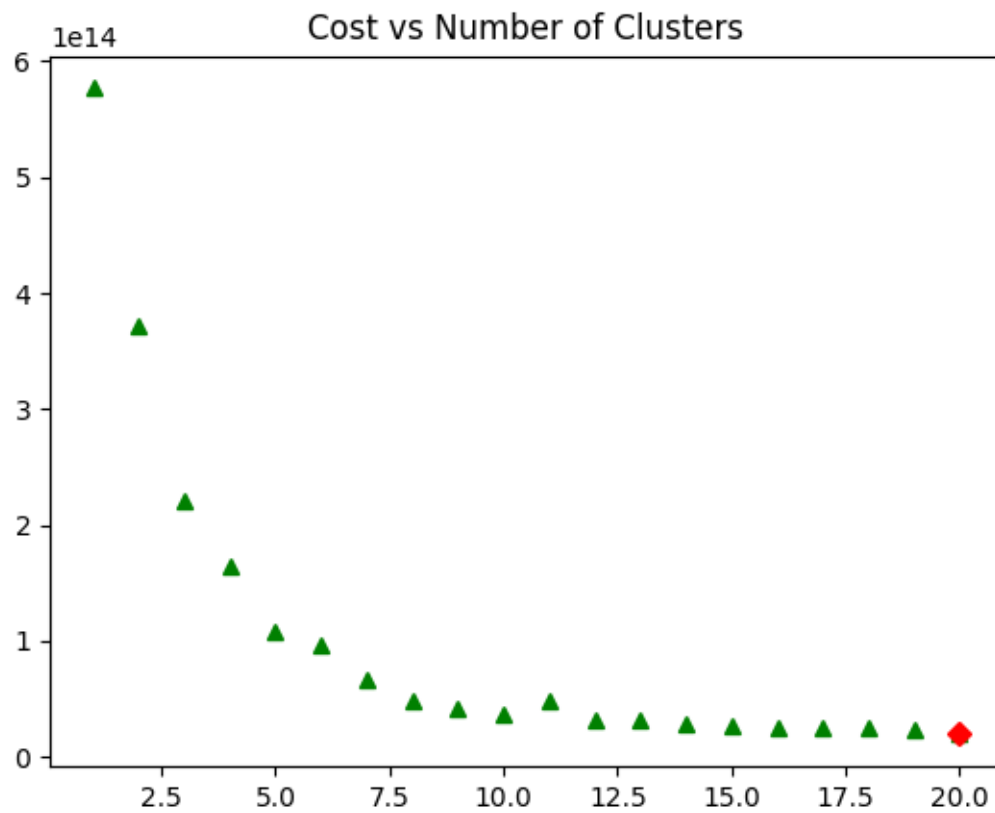


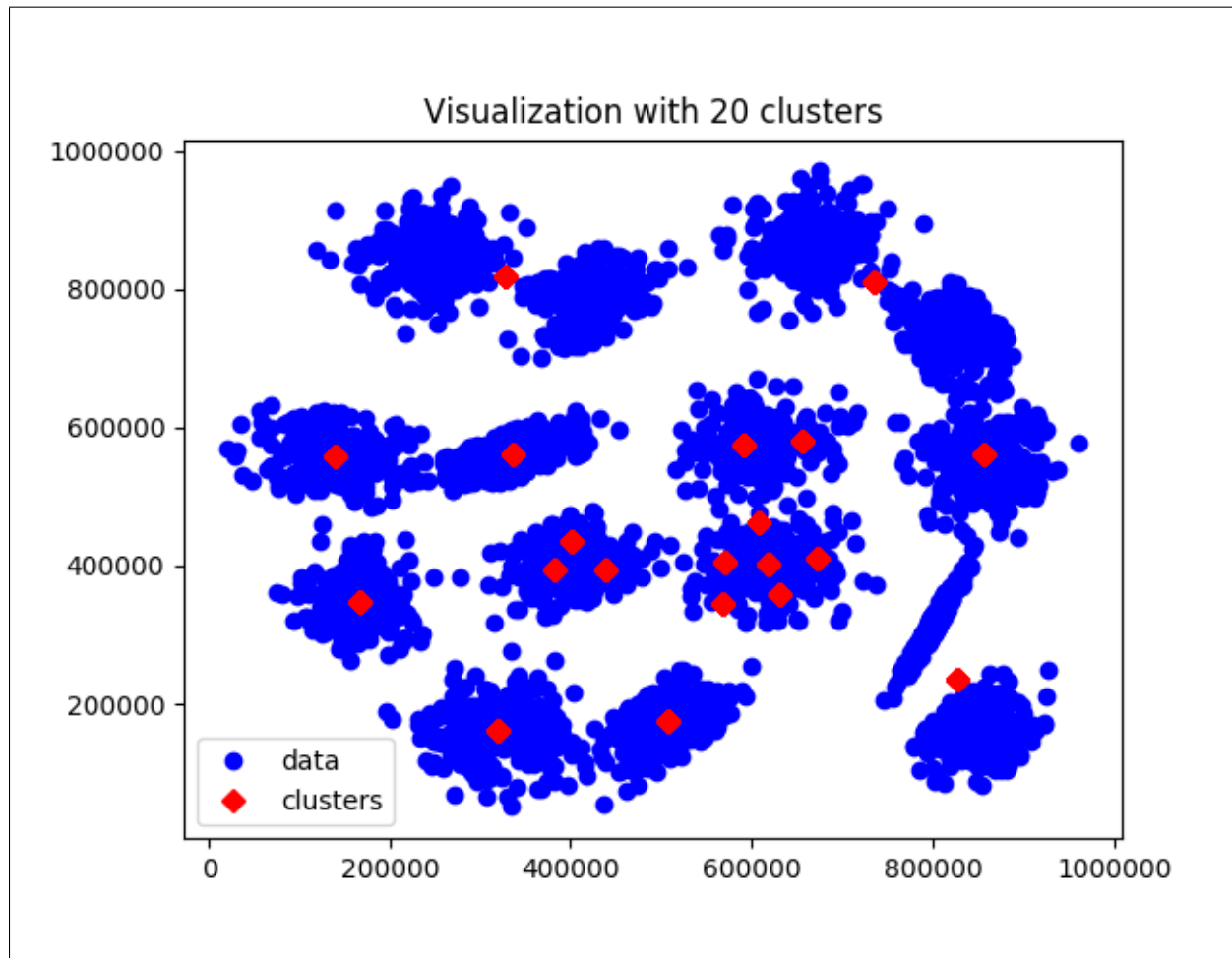
Homework 8

Hoang Chu

Problem 1.

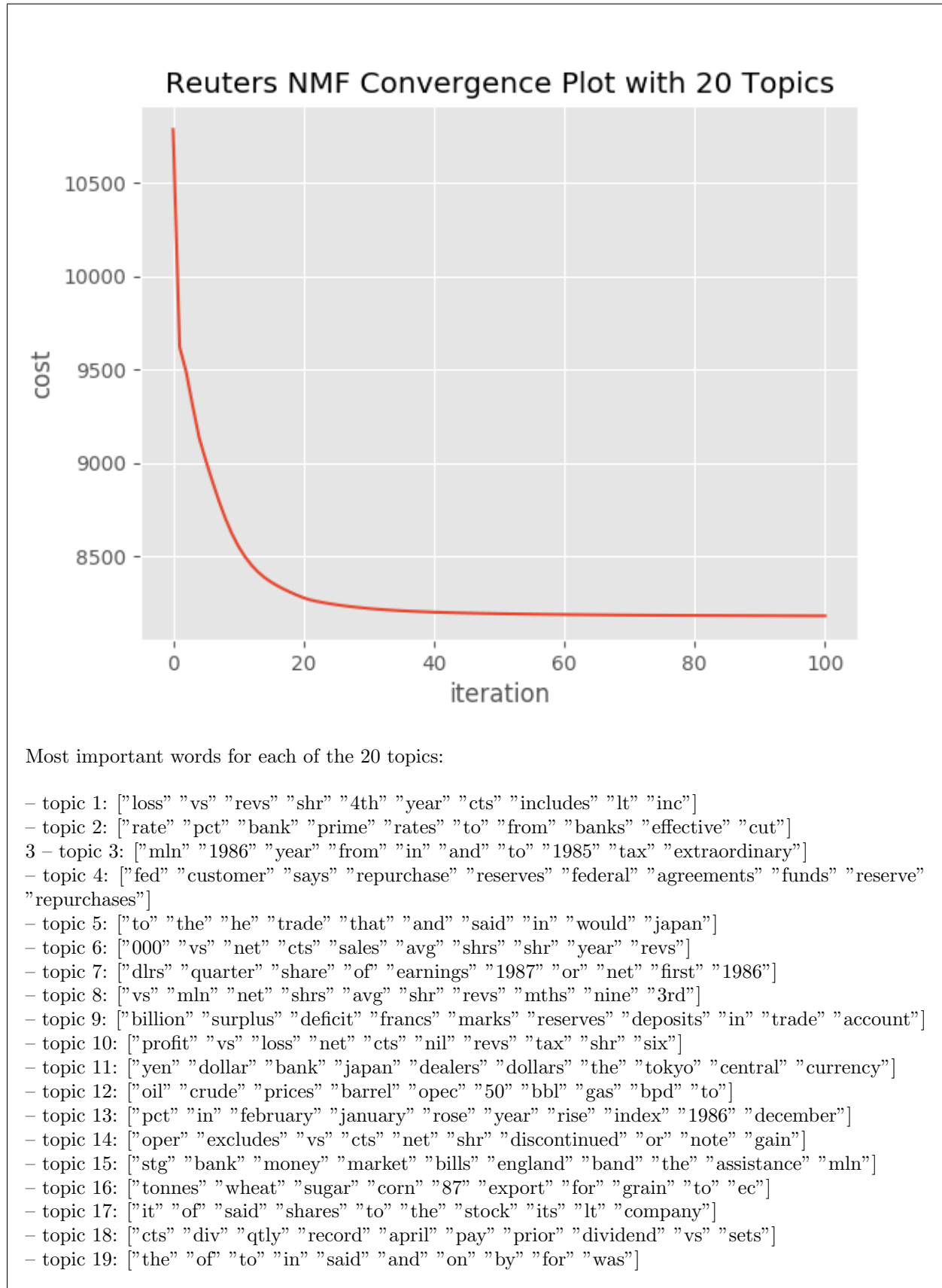
Solution: The number of clusters with the optimal cost is 20 . The plots are shown below.





Problem 2.

Solution: We chose to minimize the Frobenius norm between the approximation and the actual matrix, but it's equally okay to minimize the fake KL divergence objective they present in the paper. We also chose to use the multiplicative update because it's easier to implement and guarantees of the objective function being monotonic.



– topic 20: ["cts" "vs" "shr" "qtr" "net" "1st" "revs" "inc" "4th" "lt"]