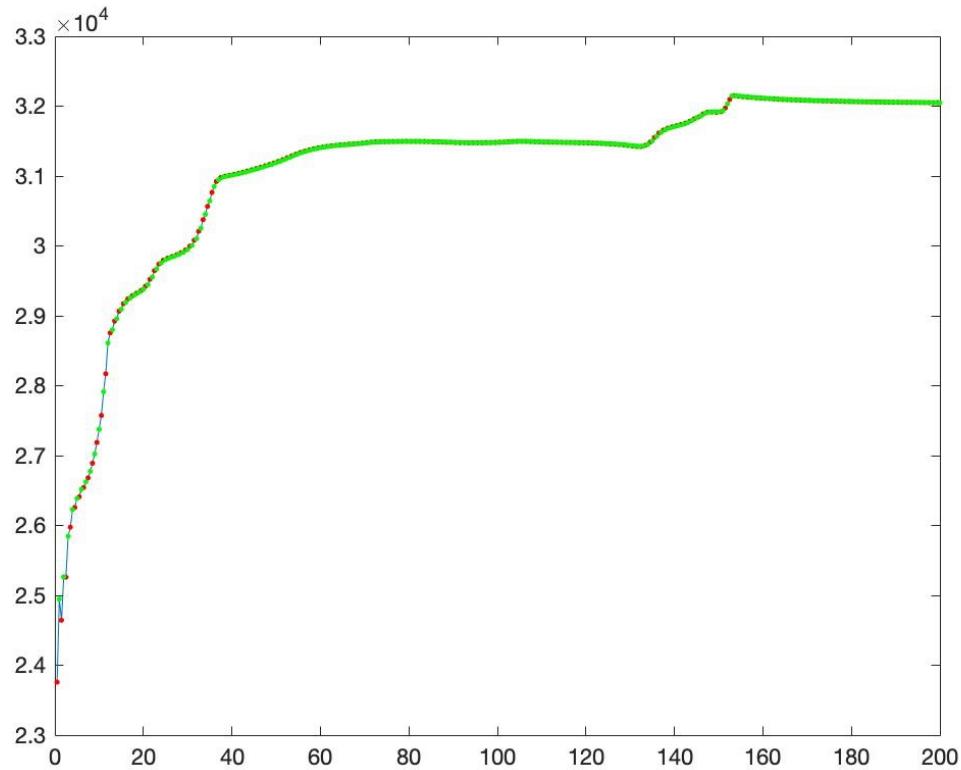


K=12



The complete log-likelihood will always converge and converge at higher value as we increase the number of clusters.

Q2.c

K-means doesn't assume any kind of clusters' distribution, which assigns points to clusters simply based on Euclidean distance. However, EM fails this picture since EM assumes clusters' distribution and thus cov-matrix has to be computed, which can sometimes turn out to be a singular matrix and this will cause problem when the program tries to calculate its inverse.