(Q5) Frobenius norm

Suppose A - is closest representation B.

As we know for matrix X,

Frobenius norm = $\sqrt{\sum\sum A_{ij}^2}$

We had reshaped A into a column vector and on reshaping the eigenbasis of the covariance matrix will get changed.

Thus A and B can be represented as linear combination of mean-matrix and the first four eigenvectors.

using the formula for Frobenius norm of difference I designed the algorithm.

To get the minm difference we will make first few terms (equal to no. of eigenvectors used) = 0.

From here we will get the required quantity.