Part 1 : GMM (Gaussian Mixture Model)

1. **DATASET :**
   Use sklearn library to import the 'iris' dataset which has 150 instances, 4 features and 3 classes with 50 instances for each class. Additionally, you are free to use any other dataset of your choice as well.

2. **VISUALISATION:**
   While dealing with high dimensional dataset, use any dimensionality algorithm to project data in 2-D for visualisation and plotting purpose, for e.g., PCA(Principal Component Analysis)

3. **LIBRARIES TO BE USED :**
   - numpy
   - sklearn(to be used only for fetching data)
   - random
   - matplotlib
   - pandas(optional)

4. **Implementing GMM:**
   - Complete the code for GMM clustering by filling the Expectation, Maximization and plotting parts. Run the code, import the missing libraries if required.
   - Experiment by changing the initialization parameters such as Mean vectors and covariances. Observe the convergence by varying the convergence limit. Similarly, use different number of clusters and plot it. Report the means and covariances of the original data and the gaussian mixtures after convergence .

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