HW9: Data mining

You have recorded pupil responses in a subject viewing different images.
The data are saved in *data.txt*, which includes 500 trials where each trial is 1200ms long

1. Plot the mean pupil response over all trials
2. Do PCA across trials (Hint: each PC should be1200 elements long, and there should be 500 of them). How much variance does the first PC account for? How many components account for >=90% of the variance?
3. Plot the first principal component.
4. Run k-means 10 times with k=2. For each run, plot the cluster centers you obtain.