

## PDEEC0049 / CMU 18782 Machine Learning — 1st Semester

## Class Exercises. Set 7

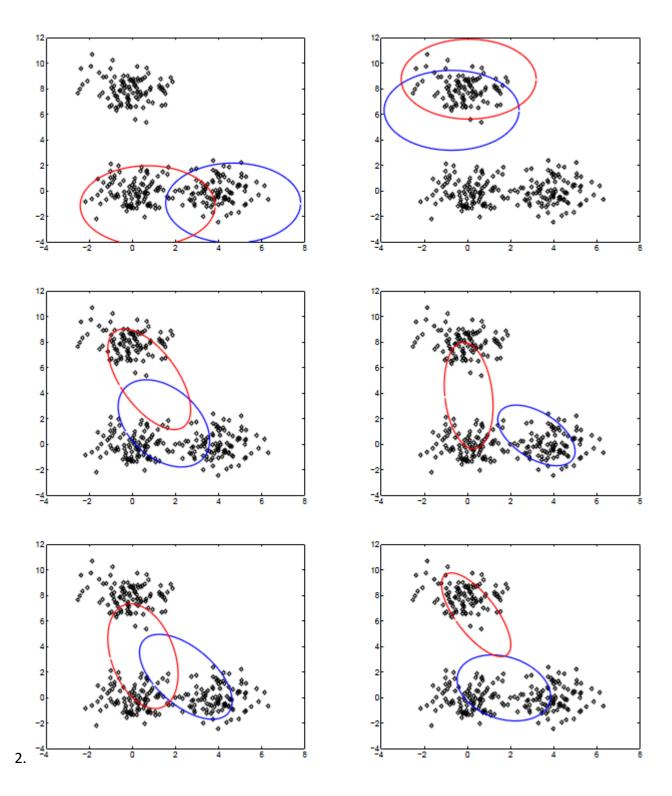
1. Consider the dataset described by the following distance table.

	Α	В	С	D
Α	0	1	4	5
В		0	2	6
С			0	3
D				0

- a) Build the dendrogram using 'single linkage'.
- b) Build the dendrogram using 'complete linkage'.

2. We estimated a mixture of two Gaussians model based on two-dimensional data shown in the next Figure. The mixture was initialized randomly in two different ways and run for three iterations based on each initialization. However, the figures got mixed up. Please draw an arrow from one figure to another to indicate how they follow from each other (you should draw only four arrows). Briefly explain your answer.

JSC PAGE 1/2



JSC PAGE 2 / 2