

Exercise 5: UPGMA

Phylogenetic trees via UPGMA: You are to consider the following distance matrix D:

	A	B	C	D
A	0	3	10	10
B	3	0	2	12
C	10	2	0	4
D	10	12	4	0

Run the UPGMA Algorithm on distance matrix D, using centroid based (average) linkage when computing inter-cluster distances, showing intermediate steps.

- Which pair of nodes is Merged first?
- What is the resulting inter-cluster distance matrix?

	0		
		0	
			0

- Which pair of nodes or clusters is Merged next?
- What is the resulting inter-cluster distance matrix?

	0	
		0

- What is the final phylogenetic tree based on the above UPGMA algorithm run?