

### **Assignment 3 (Phylogenetic analysis)**

Construct a phylogenetic relationship for the given nucleotide sequences (sequence.txt).

- Write a script to generate a distance matrix (.csv file) for the sequences present in the data file. Name the distance matrix file as 'Ndistance.txt'.

For example,

seq1 = 'ATGAATGCAA'

seq2 = 'ATGCATGCTA'

Distance (seq1, seq2) = Mismatches/total length = 2/10 = 0.2.

- Write a script that uses 'Ndistance.txt' and generate the phylogenetic relationship between the organisms using the UPGMA method.
- What do you infer from the above analysis?