CSE 300: Online Assignment

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1 Introduction

This assignment has been designed to assess the preparation of the students in writing scientific articles using LaTeX. Different components, that are frequently used in scientific manuscripts, have been covered in this assignment.

1.1 Tables

We wish to place Table 1 right here.

Table 1: **Optimization scores for Method-1 and Method-2 on different datasets covering various model conditions.** We show average scores of two optimization criteria for various model conditions.

Simulation Condition			Optimization Score			
Dataset	Complexity	Model condition	Score 1		Score 2	
			Method-1	Method-2	Method-1	Method-2
D1	Easy	M_1	7,425.55	770.00	929.55	10
		M_2	7,657.00	9,179.00	716.15	20
	Hard	M_3	54.00	9,007.15	3,759.00	30
		M_4	74.00	5567.15	99.00	25
D3	Moderate	M_1	34.00	273.00	321.60	34
		M_2	`Not Applicable`		16.00	11
		M_3	657.00	179.60	716.00	19

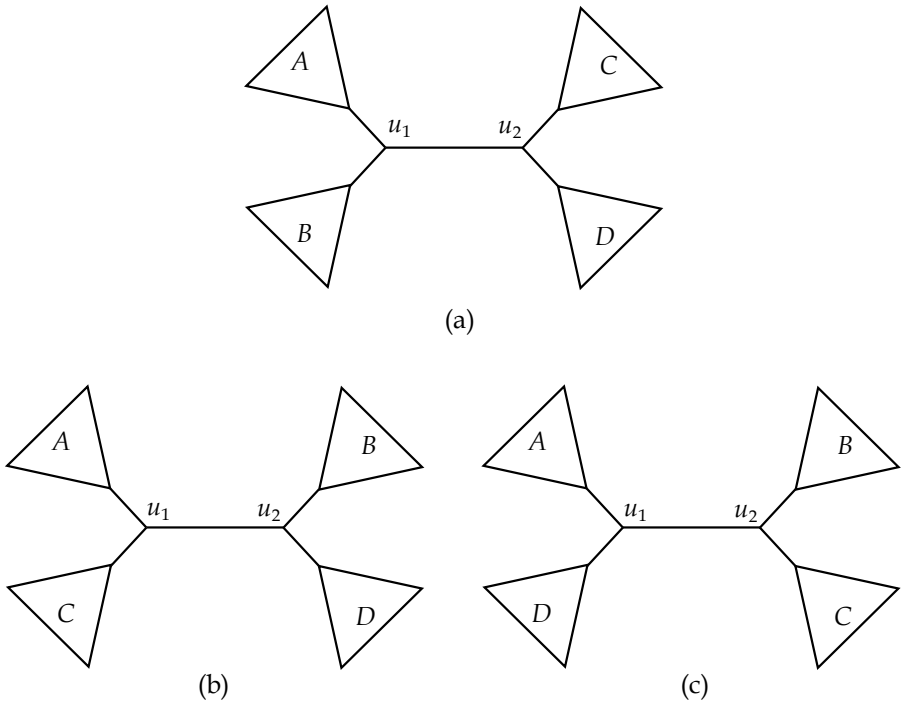

Figure 1: **Nearest Neighbor Interchange (NNI) move on an internal edge.** (a) A species tree ST, and (b)-(c) the neighbors of ST resulting from one NNI move on edge $e = (u_1, u_2)$. A, B, C, and D are the sets of taxa in the four subtrees around edge e.

1.2 Figures

We intend to put Figure 1 at the top of a page.

1.3 Mathematical Equations

Let $n_1|n_2|n_3$ be a tripartition defined on an internal node u of a binary tree T. The number of tripartitions mapped to u is given by Eqn. 1.

$$\begin{aligned} \mathcal{NQ}(n_1, n_2, n_3) &= \binom{n_1}{2}\binom{n_2}{1}\binom{n_3}{1} + \binom{n_2}{2}\binom{n_1}{1}\binom{n_3}{1} + \binom{n_3}{2}\binom{n_1}{1}\binom{n_2}{1} \\ &= \frac{n_1 n_2 n_3 (n_1 + n_2 + n_3 - 3)}{2} \end{aligned} \tag{1}$$

2 Conclusions

The major objectives of this assignment are listed below (please do not ignore the font sizes).

- To see if the students have adequately practiced different aspects of writing in LaTeX.

- To assess the ability of the students in preparing manuscripts in LaTeX.
- To see if the students can add various basic components (e.g., tables, figures, equations) to a LaTeX manuscript.
- To see if the students can leverage the available materials (both offline and online) to do something which has not explicitly been taught in the class.