# CSE 300: Online Assignment

Md Shamsuzzoha Bayzid[1,*], Mahjabin Nahar[1,2], Md Shariful Islam Bhuyan[1,2], and Md Saidur Rahman[1,2]

[1]Department of Computer Science and EngineeringBangladesh University of Engineering and Technology
[*]Corresponding author: shams bayzid@cse.buet.ac.bd
[2]yThese authors contributed equally to this work

April 7, 2021

## 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 | | 321.60 | 34 |
| | | $M_3$ | 657.00 | 179.60 | 321.60 | 34 |

### 1.2 Figures

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

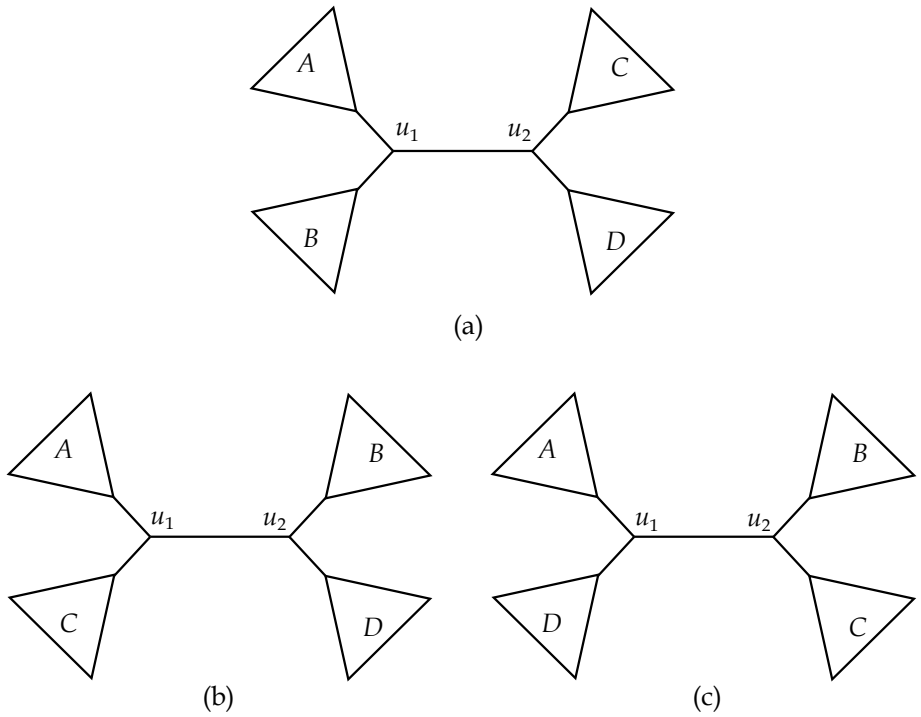


Figure 1: **Nearest Neighbor Interchange (NNI) move on an internal edge**

### 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 fontsizes).

- To assess the ability of the students in preparing manuscriptsin LaTeX.
- To see if the students have adequately practiced different aspects ofwriting in LaTeX.
- To see if the students can add various basic components (e.g., tables, figures, equa-tions) to a LaTeXmanuscrip.
- To see if the students can leverage the available materials (both offline and online) to dosomething which has not explicitly been taught in the class.