Introduction to Algorithms and Data Structures

Time: 10:00-12:00, 13:00-15:00

Supplemental Web page:

`http://www.jaist.ac.jp/~uehara/course/2020/myanmar/`

(I sometimes update this page; especially, please check the schedule which might be changed.)

Evaluation: Evaluations will be made by the following rate;

- Small reports on each day: 10 points × 3 make 30 points in total.
- Summary of one lecture on January 10: 20 points.
- One big report: 50 points.

Schedule:

Date	Contents
January 7	Intruduction to Introduction to Algorithms
	Foundation of Algorithms (1): Basic models
	Foundation of Algorithms (2): Simple Basic Algorithms
	Searching (1): Sequential Search and its analysis
	Searching (2) Block Search
January 8	Searching (3) : Binary Search and Hash method
	Data Structure (1): Stack, Queue, and Heap
	Data Structure (2): Binary Search Tree and (its balancing)
	Sorting (1): Bubble sort, Insertion sort, and Heap sort
January 9	Sorting (2): Merge Sort, Quick sort, complexity of sort algorithms, and counting sort
	Data Structure (4): Data structures for graphs
	Graph Algorithms: Breadth-first search and depth-first search
	Advanced Algorithm: Dynamic Programming
January 10	Special lectures on recent algorithms by the following professors
	Spanning trees and Cotrees in Digraphs by Prof. Muhammad Kaykobad, BUET
	Graph Drawing by Prof. Md. Saidur Rahman, BUET
	Approximation Algorithms using ILP by Prof. Subhas Nandy, ISI
	Dispersion Problems by Prof. Shin-ichi Nakano, Gunma University
	Computational Origami by Prof. Ryuhei Uehara, JAIST

Reports:

From January 7 (Tuesday) to 9 (Thursday), I will give some reports. Some reports are asked to solve them in, say, 10 minutes, and they will be collected in the class. Some other reports are asked t submit the next day. Each daily reports make 10 points in total. You also should submit two reports. One is "a survery for a lecture on Friday". That is, choose one lecture you like, and make a survey for the lecture. It makes 20 points. Another report problems will be open on Thursday, which makes 50 points. In total, you can have up to 100 points. The deadline of the final report is January 31 (Friday). Please submit the final report to Dr. Wint Thida Zaw (`wintthidazaw@uit.edu.mm`). Checked reports will be returned to you.