Data Analysis
(Course Overview and Preparation)

Fall, 2020

Instructor

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Course Information

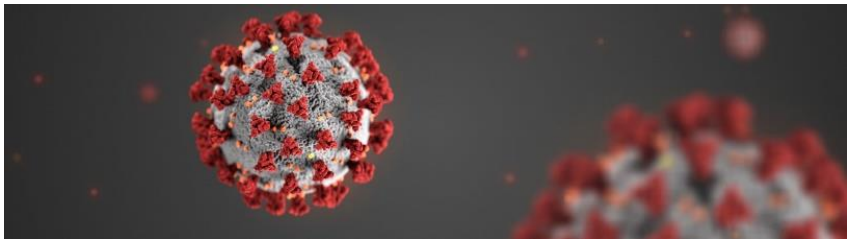
- Introduction
  - This lecture enables to handle real-world data based on Java language.
- Objectives
  - Students can model, collect, process, and analyze real-world data
  - With appropriate data structure
  - With state-of-the-art computational programming paradigm

- Lecture: Korean
- Lecture note: English

- Tuesday 12:00~13:30
- Thursday 12:00~13:30

- Targeted students: 3rd year – Fall

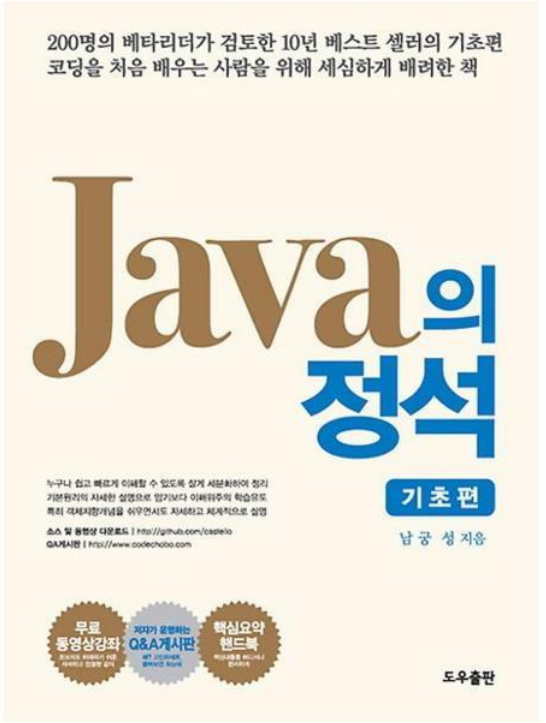
Real-time online learning for COVID-19



- Platform
  - GoToMeeting
    - https://www.gotomeeting.com/
  - A link to access the meeting will be given
    - Via Kakao talk open chatting
    - https://open.kakao.com/o/gZrO5psc
    - Around 12:00
  - Highly recommended
    - Chat
    - Q & A
- Record of online streaming
  - Will be uploaded in Blackboard platform

Textbook

- Lecture notes will be provided
  - For your Java language,
    - JAVA의 정석, 남궁 성, 도우출판



For your information

- Course Material
  - Uploaded, at least, until a lecture starts
- Program Codes
  - do not open but open if necessary
- Teaching & Learning
  - Basics
    - Scope: All the students
  - Advanced Topics
    - Scope: Some self-motivated students
- Grading
  - Try to be perfect in every criteria if you want higher grade
  - Based on final points
  - Interval is determined by the lecturer, unnegotiable

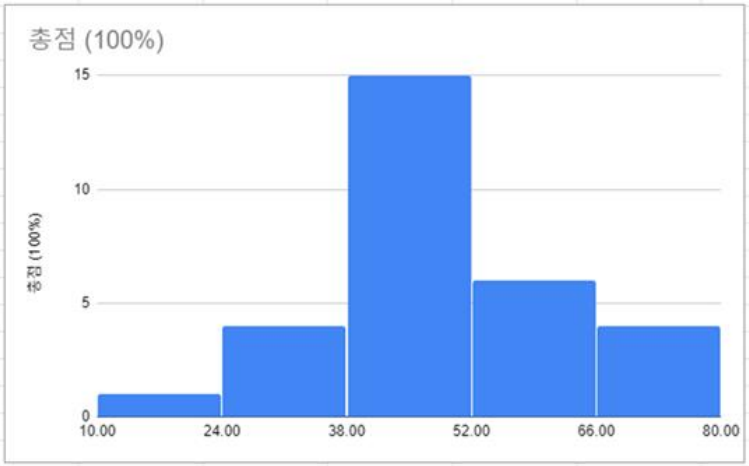
Course Grading

- Attendance
  - 10%
    - Late: -0.5 12:10~13:30: 수업 안에만 오시면 됨
    - Absence: -1
    - Late one time is OK (e.g., -0.5 → 10, -1.5 → 9)
- In-class assignment and Report
  - 30%
    - Assignment 1. Implementation and Use of your own data structure 1
    - Assignment 2. Implementation and Use of your own data structure 2
    - Assignment 3. Implementation and Use of your own data structure 3
    - Assignment 4. Case study1: Map-reduce program
    - Assignment 5. Case study2: Vertex-centric program
- Midterm examination (offline)
  - 30%
  - Data modelling, collecting, and analyses
- Final examination (offline)
  - 30%
  - Efficient data processing and analyses
- Bad attitude
  - Any bad attitude → Your grade will decrease based on your final points.
  - (e.g., A→B or A→F)

Your grading file

- Location
  - https://docs.google.com/spreadsheets/d/1eIYguB28n1zJsoFKN9G6nFsXe0pBLSftG0fV_90x08U/edit#gid=0
- Invite

학번	분반	중간고사 (50%)	출결 (10%)	프로젝트 (40%)	총점 (100%)
[redacted]	1	75	100	85.91666666	81.86666667
	2	70.1	90	87.52738095	79.06095238
	1	66.5	100	79.94285714	75.22714286
	1	53.3	90	79.94285714	67.62714286
	1	46.5	100	85.91666666	67.61666667
	1	44.4	100	85.91666666	66.56666667
	2	62.8	80	60.74404762	63.69761905
	1	38.3	100	85.91666666	63.51666667
	1	41.2	100	79.94285714	62.57714286
	2	38	100	83.46428571	62.38571428
	1	36.2	100	79.94285714	60.07714286
	2	15	100	87.52738095	52.51095238
	1	19.3	100	79.94285714	51.62714286
	2	12.5	100	87.52738095	51.26095238
	2	24	90	72.60119047	50.04047619
	2	22	100	72.60119047	50.04047619
	2	15.5	80	83.46428571	49.13571428
	2	13	90	83.46428571	48.88571428
	1	5.5	100	85.91666666	47.11666667
	2	6	90	87.52738095	47.01095238
	2	2	70	87.52738095	43.01095238
	2	1	90	83.46428571	42.88571428
	2	17	100	60.74404762	42.79761905
	2	13.5	70	72.60119047	42.79047619
	2	1.5	80	83.46428571	42.13571428
	2	5	90	72.60119047	40.54047619
	2	5.5	70	72.60119047	38.79047619
	2	6.5	90	60.74404762	36.54761905
	2	10	70	60.74404762	36.29761905
	2	2.5	90	60.74404762	34.54761905
	2	6	70	60.74404762	34.29761905
	1	0	100	0	10



Schedule 1

Week	Title
1	Course Overview and Preparation
2	Review Java Programming
3	Data modelling and collection
4	Data modelling, collecting, and analyses 1: Array
5	Data modelling, collecting, and analyses 2: List
6	Data modelling, collecting, and analyses 3: Hash
7	Data modelling, collecting, and analyses 4: Tree
8	Midterm Examination

Subject to change

Schedule 2

Week	Title
9	Parallel processing and synchronization problem 1
10	Parallel processing and synchronization problem 2
11	Stream and Parallel Processing 1
12	Stream and Parallel Processing 2
13	Map-reduce programming paradigm
14	Link analysis and vertex-centric programming paradigm 1
15	Link analysis and vertex-centric programming paradigm 2
16	Final Examination

Subject to change