Progress Report

Team Indigo

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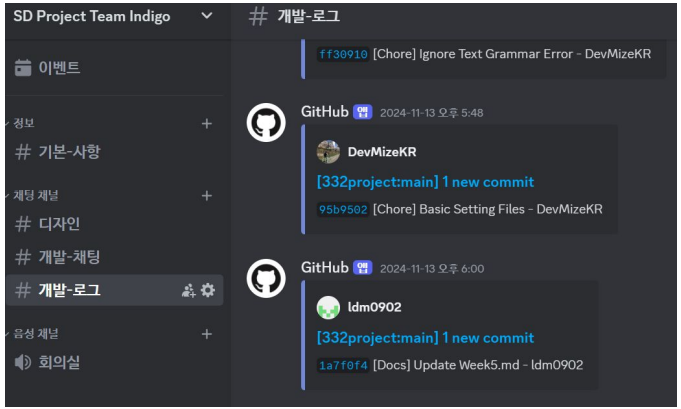
Review of Weekly Progress

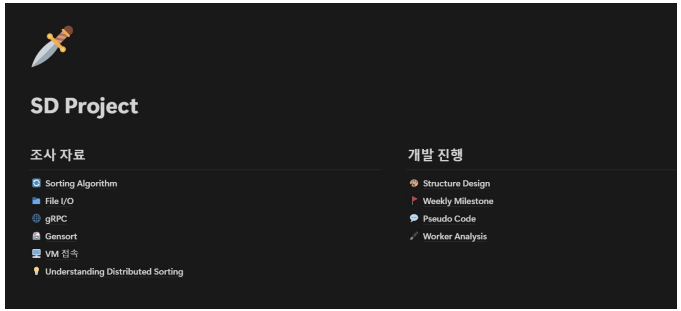
Week	Progress
Week 1	Created Project Repository / Fixed Meeting Plan & Tools to Use
Week 2	Decided Git Convention / Researched Basic Concepts of Project
Week 3	Researched about Each Steps for Implementing / Basic Structure Design
Week 4	Detailed Structure Design
Week 5	Set gRPC & Basic Scala Project Files on Git
Week 6	Intermediate Presentation

Logistics

Communication	Offline Meeting / Discord
Documentation	Weekly Report
	Project Notion

Member	Role
황찬기	Basic Project Settings & gRPC
이다민	Master
안재영	Worker





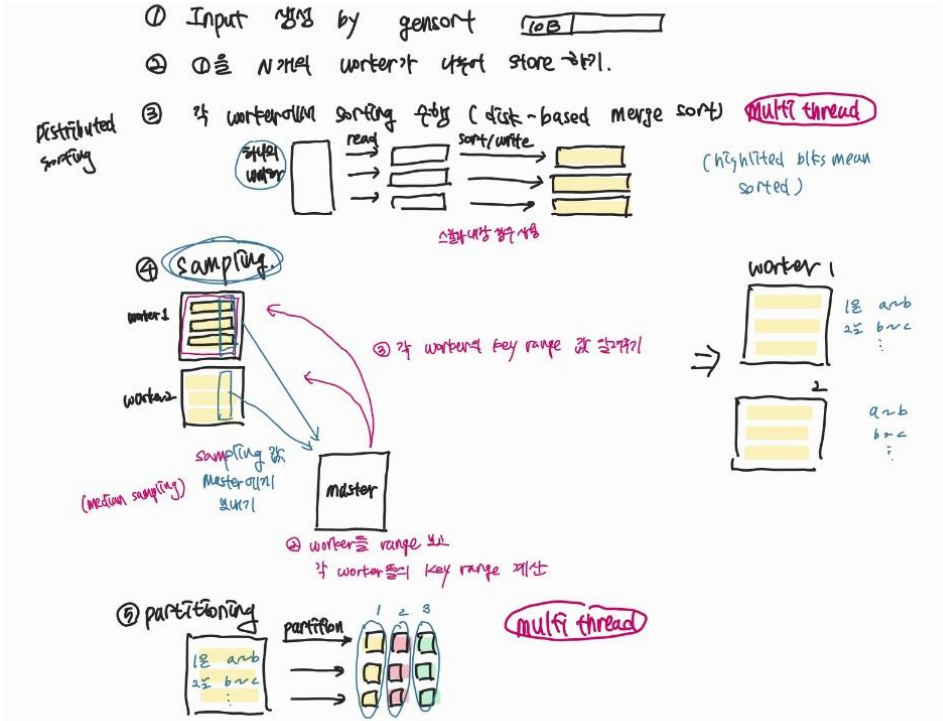
Programming Environment

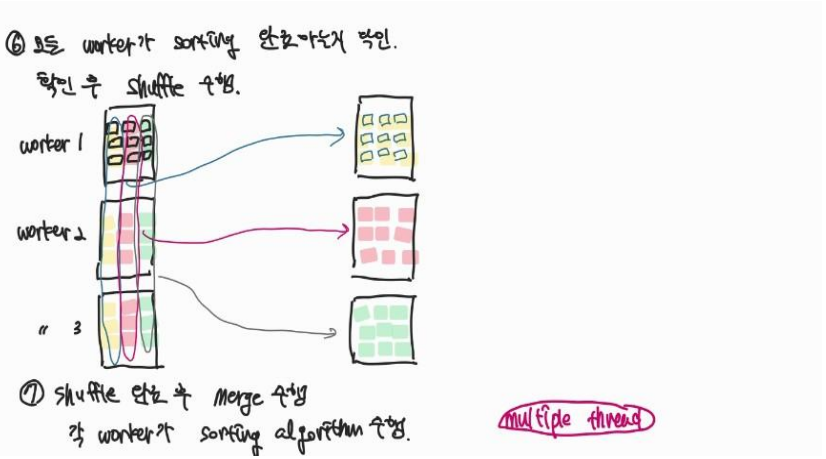
OS	Windows
Basic	JDK 22 / Scala 3.5.2 / SBT 1.10.5
Logging	

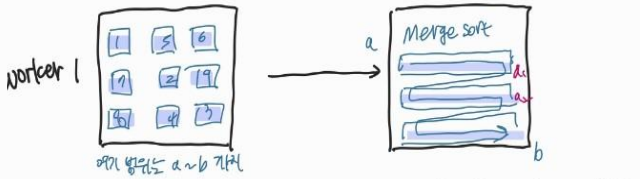
Library	Version	Description
gRPC		

Design

- Worker algorithm

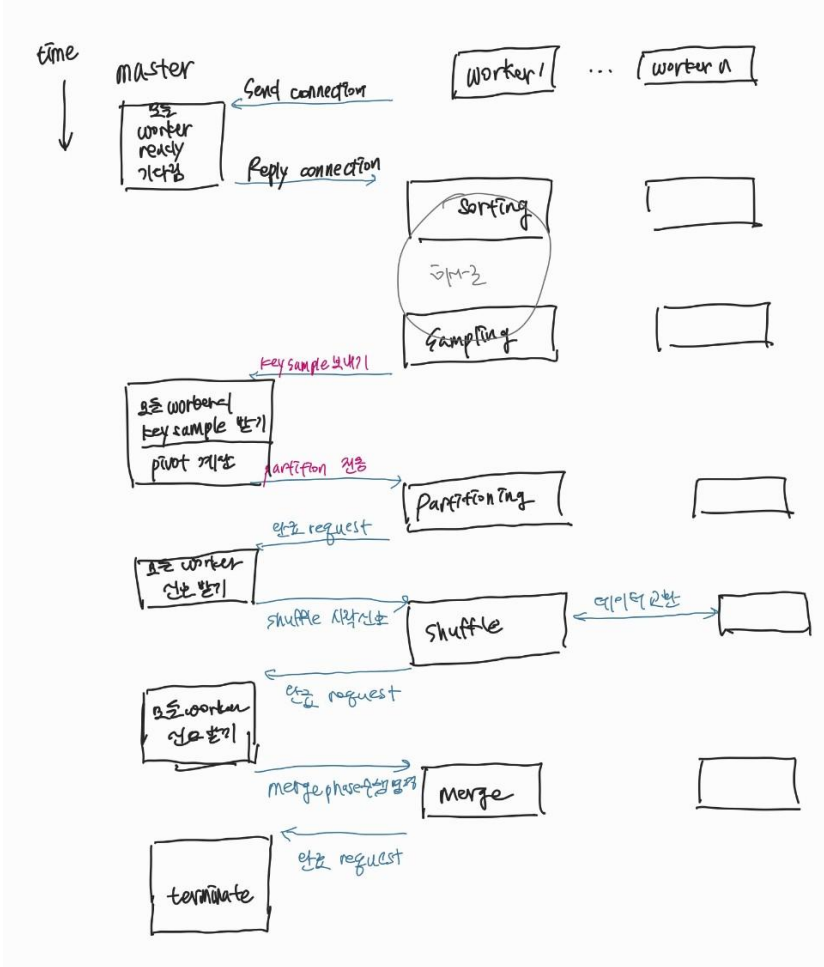






Design

- Flow chart



Design

- Data Type

- class worker
  - def initialSetting()
  - def sorting(blockList: List[Block]): List[Block]
  - def sampling(blockList: List[Block], sampleSize: Int): List[Int]
  - def partitioning(blockList: List[Block], pivot: List[Int]): List[Block]
  - def shuffle(partitionedBlocks: List[Block])
    - 네트워크 활용 필요
  - def merge(blockList: List[Block]): List[Block]
    - 모든 block을 병합하여 하나의 정렬된 block 리스트로 반환
- class master
  - def connectWorker
  - def settingWorker
    - worker 갯수 만큼 input을 나누어 각 worker에게 전달.
  - def makePivot(keysFromWorkers: List[Int]): List[int]
  - gRPC 관련 내용

- data type
  - class Block
    - dir: String
    - range: (Int, Int)
  - class Record(key: String, value: String)
    - gensort에 의해 생성되는 [key-value]쌍. 처음에 들어 올 때는 Byte로 들어온다
    - key: Int
    - value: String
- signal/request/gRPC 관련

Progress

- Topics we discussed for each steps
  - Connecting / Setting Phase : gRPC Structure / Generating Data with gensort / Constructing Master & Worker Basic Class
  - Sorting Phase : Sorting Algorithm (Scala internal Sorting Algorithm) / Multi Thread
  - Sampling Phase : How to Sampling / How to Decide Pivots
  - Partitioning Phase : Size of Partition / How to Partitioning
  - Shuffling / Merging Phase : How to build Shuffling / Merging Algorithm

Next Plans

- Revised Milestones
  - Week 6 : Implementation
    - worker
    - master
    - network
  - Week 7 : Testing Performance & Fixing Bugs
  - Week 8 : Final-Presentation

Q & A