Hi,

It was great speaking with you! As per our conversation, below is a programming problem. Please read the description to understand the expectations thoroughly and solve the problems.

Note:

- You must use Java (>= 1..8) to solve the problem.
- There must be a way to supply the application with the input data via text or csv file
- The application must run without any error.

Timeline:

You have to submit the program through the Git repository in three days from the date that you receive these instructions to submit your code. However, you may request more time from your recruiter if needed in case of genuine reason.

Problem: Payroll Processing System

PPC is a Payroll solution provider company who manages the payroll of the various companies from small scale to large scale company.

PPC accepts the employees data from the client in either plain text format (.txt) or csv (.csv) format to manage the employee life cycle starting from date of onboarding to date of exit.

Following are the data points of employees which the client has to send to PPC in either text format or csv format. One record is a comma (,) separate collection of these data points and one file can contain thousands of such records of any employees for various events.

Field of Record	Description
SequenceNo	Sequence number of records in file starting from 1
EmpID	Unique Id of employee

Field of Record	Description
EmpFName	First Name of employee
EmpLName	Last Name of employee
Designation	Post of employee
Event	Any one from below table
Value	Value according to the event. Refer to the following table. | ONBOARD	Date of Joining in MM-DD-YYYY format
SALARY	Salary Amount in USD
BONUS	Bonus Amount in USD
EXIT	Date of Leaving in MM-DD-YYYY format
REIMBURSEMENT	Reimbursement Amount in USD	
EventDate	Date when this event happened in DD-MM-YYYY format.
Notes	Details of specific events

Table 1 - Employee data point for record

PPC handles following events and manages the payroll accordingly. Each even has specific fixed format and client has to strictly follow it while sending data.

Event	Description	Records Format
ONBOARD	When employee join the organization	**Format: SequenceNo, EmpID, EmpFName, EmpLName, Designation, Event, Value, EventDate, Notes** 1, emp101, Bill, Gates, Software Engineer, ONBOARD, 1-11-2022, 10-10-2022, "Bill Gates is going to join DataOrb on 1st November as a SE."
SALARY	For monthly salary	**Format: SequenceNo, EmpID, Event, Value, EventDate, Notes** 1, emp101, SALARY, 4000, 10-10-2022, "Salary of OCT 2020 month" **Note: Month of EventDate is Salary month.**
BONUS	For yearly bonus declared	**Format: SequenceNo, EmpID, Event, Value, EventDate, Notes** 1, emp101, BONUS, 1000, 10-10-2022, "Performance bonus of year 2022" **Note: Month of EventDate is when Bonus will be paid.**
EXIT	When employee exit the organization	**Format: SequenceNo, EmpID, Event, Value, EventDate, Notes** 1, emp101, EXIT, 1-11-2022, 10-10-2022, "Leaving for further study"
REIMBURSEMENT	When the expenses has to reimburse along with monthly salary	**Format: SequenceNo, EmpID, Event, Value, EventDate, Notes** 1, emp101, REIMBURSEMENT, 100, 10-10-2020, "Traveling expenses" **Note: Month of EventDate is when reimbursement will be paid.**

Table 2 - List of Event with example

Rules:

1. Do not use any external libraries to solve this problem, however you can use external libraries or tools for building or testing purposes. Specifically, you may use unit-testing libraries or build tools available for your chosen language (e.g., JUnit, Mockito or other Mock framework).
2. You have to submit the application to the GIT repository (without any compiled code) with a brief explanation of your design and assumptions, as well as detailed instructions to run your application.
3. You can use any IDE to develop the program. However, we should be able to open project in any IDE and should be able to run.
4. We assess a number of things including but not limited to following points
   a. Design aspect of your solution
   b. Object oriented programming skills
   c. Production-quality code
   d. Design pattern and principles are being followed or not
   e. Code coverage, TDD approach and quality of unit test written test cases
   f. Exception handling
5. We request that you do not share or publish these problems as we want to be our hiring process fair.
6. Input to your program should be csv or flat text file consisting of lines of employee records in the format specified in above table.
7. Users should be able to upload as many files as he/she wants with valid employee records.

<u>Following questions should be answered as an output of the program.</u>

1. Total number of employees in an organization.
2. Month wise following details
   a. Total number of employees joined the organization with employee details like emp id, designation, name, surname.
   b. Total number of employees exit organization with employee details like name, surname.
3. Monthly salary report in following format
   a. Month, Total Salary, Total employees
4. Employee wise financial report in the following format
   a. Employee Id, Name, Surname, Total amount paid
5. Monthly amount released in following format
   a. Month, Total Amount (Salary + Bonus + REIMBURSEMENT), Total employees
6. Yearly financial report in the following format
   a. Event, Emp Id, Event Date, Event value

Test input:

1. *This is an example file to represent the data in the input file.*
2. *One file can contain thousands of records.*
3. *One file must have employee details of one organization only. File.txt*

Employee_details.txt (Refer Table 2 above to check the record format of each event)

1, emp101, Bill, Gates, Software Engineer, ONBOARD, 1-11-2022, 10-10-2022, "Bill Gates is going to join DataOrb on 1st November as a SE."
2, emp102, Steve Jobs, Architect, ONBOARD, 1-10-2022, 10-10-2022, "Steve Jobs joined DataOrb on 1st October as an Architect."
3, emp103, Martin, Fowler, Software Engineer, ONBOARD, 15-10-2022, 10-10-2022, "Martin has joined DataOrb as a SE."
4, emp102, SALARY, 3000, 10-10-2022, "Oct Salary of Steve."
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